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7 November 1983

East Europe Report

ECONOMIC AND INDUSTRIAL AFFAIRS

No. 2470

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REPORT ON ECONOMIC RELATIONS WITH JAPAN

Sofia ECONOMIC NEWS OF BULGARIA in English No 7, 1983 p 6

[Article by Dimitar Roulev: "Dynamic Economic Relations"]

[Text]

In 1970 Bulgaria and Japan signed a trade and shipping agreement which actually provided the groundwork for their economic links. The two countries granted each other the most-favoured-nation's clause under that agreement. In 1972 a Joint Economic Committee was set up, consisting of two parts: a Bulgarian - Japanese Committee for economic and scientific-technical cooperation, and a Japanese-Bulgarian economic committee. Thus far it has held seven joint sessions, and its task has been to help promote trade and other forms of scientific-technical joint work between Bulgaria and Japan, helping also the partners in various economic spheres to get to know each other.

The state visit by the President of the State Council of Bulgaria Todor Zhivkov to Japan in 1978 marked the most significant stage of development in Bulgarian-Japanese political and economic relations. It was then that agreements were signed for the setting up of the Joint Intergovernmental Commission for economic cooperation, and for joint ventures in the field of agriculture and fisheries.

In recent years a number of Bulgarian government leaders paid official visits to Japan: Foreign Minister Peter Mladenov - in 1978; the President of the Bulgarian Industrial Association Ognyan Doinov in 1979 and 1983; the late President of the Committee of

Culture Lyudmila Zhivkova in 1979; the Deputy Prime Minister Georgi Bozhinov in 1981; and the Chairman of the National Assembly Stanko Todorov in 1983.

Late in 1979 the Japanese Crown Prince paid a state visit to Bulgaria as the Emperor's representative. This was followed by the visits of other political figures, among them members of the Japanese cabinet, parliamentarians, leaders of the ruling Liberal-Democratic Party, etc. Business visits to Bulgaria were made by the presidents of major Japanese companies like *Mitsui, C. Itoh, Fanuc, Meiji Milk, Kobe Steel, Hitachi Zosen and NSK*.

In recent years Bulgarian-Japanese trade has been worth 60 to 70 million dollars annually. Since 1976 Bulgarian exports to Japan have been worth an average of 20 million dollars a year, and imports - around 40 million. In 1981 implementation began of contracts for the delivery of large investment equipment to this country, and Japanese imports more than doubled. Trade between the two countries in 1982 exceeded the 100 million dollars mark.

Most of the items which Japan purchases from Bulgaria are raw and prime materials, goods of agricultural origin, tobacco leaves, broached wines, sterilised fruit and vegetable preserves, twisted silk, leather wear, chemicals and aluminium scrap.

The list of Japanese goods imported into Bulgaria includes metals and special steels, pipes, bearings, electronic hardware and computer components, spare parts for marine engines, equipment for complete projects, chemicals, preparations, consumer goods, etc.

In recent years bilateral relations of finances and credit have been substantially activated. Japan granted state credit to Bulgaria for the construction of the Vitosha-New Otani hotel complex in Sofia. A credit agreement was signed also with a consortium of Japanese firms and banks in 1981 for the import of machines, equipment and complete plant into Bulgaria. Separate credit deals were signed with the Japanese bank EXIM to finance the import of equipment for the Radomir Heavy Investment Engineering Plant and for the Chaira pump-storage power station.

Economic, manufacturing and technical joint ventures between Bulgarian organisations and a number of Japanese firms started developing more briskly after 1980, when contracts were fulfilled for the delivery of Japanese complete equipment to install in a number of plants; Japanese technical assistance was provided in the transfer of certain licence technologies. The foundations were laid for joint engineering ventures between firms and organisations of the two countries: the joint *Atlas Engineering Corp.* was founded, with its seat in Tokyo. Under the provisions of Decree No. 535 of the Bulgarian State Council, two joint

ventures were set up - *Fanuc-Machinex*, and *Sofia-Mitsukoshi*.

Economic, manufacturing and technical teamwork of Bulgarian and Japanese firms and organisations proceeds on an outstandingly broad base. On the design board are a number of projects for retooling and modernising certain industrial capacities in Bulgaria, with the participation also of the joint engineering companies of Atlas and Fanuc-Machinex. The most powerful Japanese industrial and trade groups have been contacted and their active cooperation has been secured for the manufacturing and sale of products in sectors like heavy mechanical engineering, metallurgy, the chemical industry, electronics and electrical engineering, precision machine-building, power generation, etc. In 1975-1979 general agreements on economic cooperation were signed with five Japanese groups: *C. Itoh*, *Teijin*, *Mitsubishi*, *Mitsui* and *Marubeni-Fulvo*, while other firms like *Hitachi* and *Toshiba* signed agreements or protocols on joint ventures in production, research and development.

Real opportunities exist for cooperation with Japanese firms in third countries - mainly in rendering designer and other technical services, construction and assembly works, delivery of equipment and plant, etc. on the Bulgarian part. In this respect BULGARGEOMIN is doing active teamwork with Japanese firms in countries like Iraq, Libya, etc.

DIRECTOR OF JAPANESE FOREIGN TRADE FIRM INTERVIEWED

Sofia ECONOMIC NEWS OF BULGARIA in English No 7, 1983 p 5

[Hiromitsu Satoh, director of JETRO Office in Sofia, interviewed by Ventseslav Dimitrov in Sofia; data not given]

[Text]

Q. Mr. Satoh, this is your fourth year in Bulgaria as Director of the semi-governmental Japanese foreign trade organization "JETRO". Four years certainly entitle you to speak competently and to make an in-depth evaluation of Bulgarian-Japanese economic relations.

A. Indeed, I have been in Bulgaria ever since 1979. All these years I have been well-placed to follow closely the development of economic contacts between our countries. In a nutshell, I would evaluate Bulgarian-Japanese cooperation in the economy thus: dynamic progress in every respect. This is true both of the growth in trade and of the forms which this teamwork assumes.

When I arrived in 1979 bilateral trade amounted to 69 million dollars worth. Last year it exceeded the 100 million mark.

At the same time a number of new joint Bulgarian-Japanese companies were set up, based either in Bulgaria or in Japan. We are happy to have Japanese partners start one of the first joint ventures with foreign participation on Bulgarian soil. Joint work has now spread also to the field of engineering. "Atlas Engineering", the first joint venture based in Tokyo and with a branch in Sofia, is expanding its activity.

Of course, a great many untapped opportunities still exist and it is in that direction that our efforts must concentrate.

Q. Which main factors do you think enhance this dynamic development?

A. I would point to the desire and the interest of Bulgarian and Japanese business circles in maintaining mutually beneficial cooperation and good relations between our two countries. Both between official institutions and between a great number of Japanese companies and Bulgarian economic organizations, there exist very good relations which have now become traditional. I must add to this the stability of the Bulgarian economy, its high growth rate and a fine financial state.

Q. Mr. Satoh, what is "Jetro"'s role and contribution to Bulgarian-Japanese economic cooperation?

A. Our joint efforts are directed mainly to creating business contacts and getting Japanese and

Bulgarian companies to know better the two countries' potentials in the economy, science and technology fields. In other words the exchange of most topical information which will pave the way and generate the ideas for concrete cooperation. "Jetro"'s main partner in this are the Bulgarian Chamber of Commerce and Industry and the Bulgarian Industrial Association; we have very good relations and cooperation with them. For example with the BCCI we have for the third year now been publishing joint information bulletins which bring the latest achievements of Japanese economy and technology to the knowledge of interested Bulgarian specialists. We in our turn publish ever more materials about Bulgaria in our information publications in Japanese. We furthermore organize our participation in the Plovdiv Fair and the exposition of Bulgarian goods in Tokyo; we exchange market researchers, etc.

Last December we successfully held a seminar in Sofia with film projections - on advances in Japanese computer techniques and robotics. It was naturally part of a joint activity which contributes to expanding Bulgarian-Japanese economic relations.

What joint events are you preparing for the future?

A. We are now working on our participation in the Plovdiv Technical Fair in the autumn. "Jetro" will take part with an information stand of its own, at which video-films will be projected - mainly on economic and technological themes. Moreover about ten Japanese firms will organize stands of their own to show products of interest to their Bulgarian partners.

Another important jointly prepared event is a major Bulgarian exposition in Tokyo scheduled for the first quarter of 1984.

With common efforts we shall do our best to select such Bulgarian products as would find a favourable reception on the Japanese market. The task ahead is for us to finalize both the groups of commodities to be exhibited, and the collateral events to be arranged with the exposition.

Teamwork with our Bulgarian partners has one purpose: to develop Bulgarian-Japanese economic cooperation still further.

REPORT ON FULFILLMENT OF 1983 SEMI-ANNUAL PLAN

Sofia STATISTICHESKI IZVESTIYA in Bulgarian No 2, 1983, pp III, VI, VII, VIII, IX, X

[Unattributed statistical information]

[Text] General Notes

The current edition is published once a quarter and contains annual, quarterly and monthly statistical data on the basic indicators describing the socioeconomic development of Bulgaria.

The program of statistical information encompasses 11 sections:

- Basic Data on Economic Growth
- Living Standard
- Labor
- Capital Investments
- Industry
- Agriculture
- Transport
- Communications
- Home Trade and Prices
- Tourism
- Foreign Trade

The data for all the sectors are according to the organizational structure and composition of the enterprises for the appropriate period. The national economic sectors and industrial sectors have been brought into conformity with the classification of national economic sectors approved by Order No 309 of 19 April 1979. The indicators in cost terms are published according to the prices of the corresponding year. The annual indices for industrial and agricultural product, for capital investments, for trade turnover and prices, for foreign trade and the monthly indices for industrial product have been calculated by value for the corresponding prices. The annual indices have been calculated on the basis of 1970, and those for a period of less than a year with a base of the corresponding period in the previous year. The data for domestic services of the public are in retail prices as of 1 January 1982.

Data for the monetary income and expenditures of households are from a representative study of household budgets.

All data are preliminary and may be adjusted in subsequent issues.

Explanations of Abbreviations and Signs

- 0 -- Amount smaller than one-half of respectively used unit
- -- No instance
- Data absent

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The Development of the National Economy During the First Half of 1983

During the last 6 months, the labor collectives from all the national economic sectors achieved good results in fulfilling the plan for the basic indicators characterizing the socioeconomic development of the nation.

In comparison with the first half of 1982, social labor productivity increased by 6.3 percent and provided 83 percent of the increase in net product in the economic organizations. The total produced product from the state and cooperative industrial enterprises rose by 5.9 percent, total product from livestock raising in the agricultural organizations increased by 4.5 percent, construction-installation work performed by construction organizations by 6.3 percent, retail trade by 4.1 percent. A decline in material expenditures was achieved. In industry 300 mechanized and automated flow lines were introduced. Full automation and mechanization was introduced at 165 sections, shops and production lines. Over 9,000 workers moved from manual to mechanized labor.

Industry

In comparison with the first half of 1982, the state industrial enterprises produced 5.9 percent more total industrial product. The highest increase was realized at the enterprises of electrical engineering and electronics industry with 16.6 percent, the machine building and metalworking industry and the chemical and rubber industry with 7.6 percent each, and the production of electric and thermal power with 6.0 percent. In all okrugs, with the exception of Vidin, the total product from the state and cooperative industrial enterprises increased. A higher growth rate than the national average was achieved in the following okrugs: Shumen with 11.8 percent, Sofia with 11.4 percent, Burgas and Tazgrad with 10.0 percent each, Stara Zagora with 9.5 percent, Ruse with 9.3 percent, Plovdiv with 9.0 percent, Pleven with 7.8 percent, Silistra with 6.3 percent, Smolyan with 6.2 percent and Pernik with 6.0 percent. The production of a number of basic industrial products increased and this provided larger amounts of important means of production, commodities for the domestic market and for exports. In comparison with the first half of 1982, production increased as follows: by 6.4 percent for electric power, by 8.3 percent for steel, by 6.3 percent for trucks, by 5.2 percent for electric motors, by 24.2 percent for internal combustion engine plant trucks, by 3.4 percent for electric hoists, by 19.6 percent for television sets, by 2.6 percent for both nitrogen fertilizers and cement, by 19.3 percent for furniture, by 1.4 percent for cotton textiles, by 1.3 percent for woolen textiles, by 8.2 percent for garments, by 24.0 percent for footwear, by 7.3 percent for meat, by 5.9 percent for canned fruits, by 9.0 percent for cheese and by 17.3 percent for edible vegetable oils.

Labor productivity per person in the industrial-production personnel at the state industrial enterprises rose by 4.7 percent in comparison with the corresponding period of 1982. Here the greatest increase was at the enterprises of the electrical engineering and electronics industry with 13.2 percent, the chemical and rubber industry with 6.0 percent and the machine building and metalworking industry with 5.1 percent.

Capital Investments

Some 2,854,000,000 leva of capital investments were invested in the national economy and in comparison with the first half of 1982, an increase of 10.7 percent was achieved. The basic portion of the capital investments, over 74 percent, went into the sectors of material production. Of the total amount of capital investments some 36.2 percent was used for modernization and reconstruction. In comparison with the first half of 1982, more capital investments were invested in the following sectors: industry, construction, agriculture, transport, communications, trade, material-technical supply and procurement, the housing-communal system and consumer services, science and scientific services, education, culture and art, public health, social security, physical culture, sports and tourism.

Up to the end of June, fixed capital valued at 1,525,700,000 leva had been put into operation.

Agriculture

During the 6 months, agriculture received more nitrogen and potassium fertilizers and herbicides than in the same period of 1982. The socialized and private farms produced 2.2 percent more early vegetables and around 2.5-fold more early fruit.

The total product from livestock raising on the agricultural organizations was 55 million leva greater than in the first half of 1982. The number of pigs increased by 3.9 percent and the number of poultry by 2.0 percent. Some 8.5 percent more milk and 13.8 percent more eggs were produced. The productivity of the agricultural animals increased. The average milk yield per fodder cow increased from 1,574 liters in the first half of 1982 to 1,732 liters in the same period of 1983 while the average number of eggs laid per layer increased from 100 to 104.

Meat purchases (in live weight) were 8.1 percent more, for milk 8.8 percent and for eggs 12.3 percent.

Transport and Communications

The economic organizations in public transport carried 6.2 percent more freight and 1.3 percent more passengers in comparison with the first half of 1982. Some 7.5 percent more freight was carried by motor transport, 11.9 percent more by maritime transport, 5.9 percent more by river transport and 16.1 percent more by civil air transport. Some 2.5 percent more passengers were carried by motor transport and 8.0 percent more by civil air transport. The capacity of passenger transport increased by 50,000 places. Some 35 express and passenger trains were additionally put into service and 132 new bus lines were opened.

Some 9.8 percent more income was realized from communications services in comparison with the first half of 1982. Some 16 new postal, telegraph and telephone offices were opened, 13 of which are in the countryside. Installations of new telephones were 72,098 with 58,743 being for home use. Three radio transmitters, 4 radio relay centers and 17 television relay stations were put into operation.

The Standard of Living and Domestic Trade

Expanded production and increased labor productivity created conditions for a further rise in the standard of living of the workers. Average monthly wages for the workers and employees in state and cooperative industry increased from 196 leva in the second quarter of 1982 to 205 leva in the corresponding period of the current year. Average monthly wages for workers and employees also increased in construction (by 2.7 percent), rail transport (by 3 percent), motor transport (by 4.5 percent), maritime transport (by 9.0 percent), for the civil air transport (by 3.4 percent) and for trade (by 2.6 percent).

In comparison with the first half of 1982, there was a significant increase in the per capita services for the maintenance and repair of motor vehicles (by 22.2 percent), for the maintenance and repair of radio and TV equipment (by 12.9 percent), for the maintenance and repair of household appliances (by 11.3 percent), for hairdressing and cosmetic services (by 8.0 percent), for dry cleaning (by 6.0 percent) and others. The transport and communications services for the public also were improved. The passenger seats in buses, trolley buses and streetcars per 10,000 persons of the population increased from 940.7 in the first half of 1982 to 993.6 in the same period of the current year. Telephones per 1,000 persons of the population increased from 89 to 100.

The physical plant of domestic trade has continued to be expanded and modernized. New stores and public dining institutions were put into operation and existing ones were reconstructed.

A commodity turnover of over 6.5 billion leva was realized or 4.1 percent more than the first half of 1982. Sales increased as follows: 4.4 percent for meat products, 10.0 percent for vegetable and edible oils, 11.9 percent for sugar, 2.3 percent for milk, 2.7 percent for cheeses, 1.7 percent for butter, 4.4 percent for eggs, 7.3 percent for fresh vegetables and 18.1 percent for fresh fruits. Sales of certain non-food items increased such as garments, knitwear, household refrigerators, passenger cars and so forth.

Foreign Trade

In the first half of 1983, Bulgaria's participation in the international socialist division of labor broadened. The realized commodity turnover was 11.0 percent more than in the first half of 1982. Exports increased by 8.9 percent and imports by 13.1 percent.

Our trade relations with the socialist countries are continuing to develop successfully. They comprise 75.0 percent of our exports and 83.5 percent of our imports. In comparison with the first half of 1982, we exported more production-end machinery and equipment, chemicals, fertilizers and rubber, building materials and elements, foodstuffs, industrial consumer goods and so forth. The positive trends were maintained in the change in the export structure. Exported production-end machines and equipment comprise 49.6 percent of the export volume. In the first half of 1983, in comparison with the same period of last year, we imported more fuel, mineral raw materials and metals (by 13.2 percent), raw materials and products from their processing (not counting food) (by 23.3 percent) and industrial consumer goods (non-food) (by 36.9 percent).

INDUSTRIAL PRODUCTION DURING JAN-AUG 1983 PERIOD, COMMENT

Sofia IKONOMICHESKIY ZHIVOT in Bulgarian 21 Sep 83 p 4

[Statistical information from the Committee for the Unified Social Information System: "Bulgarian Industry During the Period of January-August 1983"]

[Text] During the 8 months of the year, the production plan was overfulfilled for the economically important products. For a number of them, the production volume significantly surpassed what was achieved in the corresponding period of last year:

	Produced Product	Growth Rate
Electric power, million kilowatt hours	27,296	104.6
Cold-rolled sheet steel, tons	424,000	100.6
Steel pipe, tons	189,000	104.7
"Building-block" machines, units	157	115.4
Drive axles for Liaz-Madara, units	15,788	141.5
Electric hoists, units	88,108	103.0
Battery-operated plant trucks, units	27,323	103.5
Internal combustion engine plant trucks, units	18,818	123.7
Steel-bearing structural elements, tons	40,000	102.5
Electric tools, units	241,000	104.8
Electric meters, units	318,000	100.6
Nitrogen fertilizers, tons	536,000	102.7
Polyvinyl chloride, tons	68,000	121.8
Detergents, tons	40,000	109.1
Passenger car tires, units	500,000	107.3
Cement, tons	3,762,000	100.4
Tiles and slabs, units	34,240,000	100.5
Large reinforced concrete panels, m ²	999,000	117.4
Reinforced concrete elements for construc- tion, m ³	595,000	115.1
Furniture, million leva	286,000	106.9
Paper, tons	236,000	102.2
Jars and bottles, million units	1,273,000	104.2
Cotton textiles, million m	244	101.0
Woolen textiles, million m	26	100.9
Silk textiles, million m	25	105.4

	Produced Product	Growth Rate
Outer knitwear, million pieces	35	101.4
Meat, tons	329,000	106.4
Meat products, tons	67,000	104.1
Butter, tons	17,000	110.8
Cheese, tons	81,000	107.5
Yellow cheese, tons	21,000	106.2
Edible vegetable oils, tons	111,000	118.6
Prepared and semi-prepared food, tons	27,000	113.4
Canned fruits, tons	161,000	107.7
Beer, million liters	413	100.8
Nonalcoholic beverages, million liters	342	110.7
Processed cured tobacco, tons	82,000	114.8
Tobacco products, tons	59,000	104.7

During the period of January-August, the estimate for commodity product was surpassed by 238 million leva or by 1.0 percent, and for monetary income from its sales, by 288 million leva, or by 1.2 percent. In comparison with the same period of last year, 5.6 percent more commodity product was produced and 6.1 percent more sales receipts were received.

The economic organizations in the systems of the ministries and other departments showed the following results in overfulfilling the estimates for production and sales of commodity product:

	Fulfillment of Estimate in % for:	
	Produced Commodity Product	Sold Commodity Product
Total	101.0	101.2
Including:		
Power and electrification	100.3	101.0
Chemical industry	100.4	100.6
Metallurgy and mineral resources	100.8	100.4
Machine building and electronics	101.3	102.6
Light industry	100.6	100.2
National Agroindustrial Union	101.5	101.7
Forests and forest industry	100.8	100.3
Construction and architecture	99.8	99.6
Transportation	101.3	101.0
Communications	102.2	102.2
Domestic trade and services	99.8	99.6
Central Cooperative Union	101.0	99.2
Capital people's council	105.9	106.6

Commentary

In August industry, as a whole, made better use of the productive capital and manpower in comparison with the January-July period. Some 7 percent more

commodity product was produced than in July. This amount ensures a higher increase rate and in comparison with August of last year it is nearly 9 percent, while as a total over the January-August period the increase is 5.6 percent. This is 0.4 of a point more in comparison with the first 7 months of the year. The fulfillment of the estimate for sales has also been improved. The monthly schedule of monetary receipts was surpassed by 1.4 percent and this compensated for a significant portion of the lag in July.

These good successes ensured a general overfulfillment of the 8-month plan. The estimate for the production of commodity product was surpassed by 1.0 percent and for sales by 1.2 percent. The highest results were achieved by the economic organizations and enterprises in the machine building and electronics system, the National Agroindustrial Union, metallurgy and mineral resources.

As a whole, the quotas have been realized for aggregate profit, net product and social labor productivity. The enterprises operated with fewer personnel than planned in the estimates for the state plan quotas.

Along with the positive trends which characterize the main results in the development of the basic sector of the national economic complex, it must be pointed out that in August many enterprises and economic organizations did not fulfill their plan either for the volume or quality indicators.

There are not a few enterprises which did not fulfill their state plan for aggregate profit. Their lag for the January-August period is close to 100 million leva. The failure to achieve the sales estimates is felt substantially here. At the lagging enterprises the total nonfulfillment is close to 200 million leva.

Along with the measures to overcome the sales lag, many more effective measures are needed to achieve the estimates for the level of material expenditures. In truth, as a total for the period, for the production of 100 leva of commodity product, these are 0.4 percent less than the estimated. However, in August these expenditures were 0.2 percent more than their level in the January-July period and the estimate for the month. The enterprises which have fallen behind in carrying out this basic and exceptionally important indicator for stable economic growth rates and increased production efficiency have permitted over 80 million leva of overexpenditures. The data indicate that these are due mostly to subjective weaknesses, as a result the requirements have not been observed for the established production conditions and the standards have been exceeded for the expenditure of raw products and materials in producing individual articles. Above-norm rejected products and unplanned expenditures are growing and this indirectly shows the significant weaknesses in the quality of work and the produced product.

10272

CSO: 2200/6

LAW ON 1984 ECONOMIC PLAN

Sofia RABOTNICHESKO DELO in Bulgarian 1 Oct 83 pp 1, 2

[Law on 1984 Integrated Plan for Socioeconomic Development of Bulgarian People's Republic]

[Text] Article 1. The National Assembly, in conformity with the Law on the Integrated Plan for the Socioeconomic Development of the Bulgarian People's Republic during the Eighth Five-Year Plan and on the basis of the progress made during the 3 years of the five-year plan and new conditions in the development of the country, adopts the following basic indicators for the socioeconomic development of the Bulgarian People's Republic in 1984.

1. On the basis of the nationwide intensification of the national economy as a result of the consistent introduction of modern scientific and technical achievements and, above all, of advanced technologies, the following 1984 indicators shall be increased, as specified, in comparison with 1983:

- | | |
|--|--------------|
| a) national income | 3.8 percent; |
| b) social productivity of labor | 4.0 percent; |
| c) volume of output of planned industry in comparable prices | 5.0 percent; |
| d) volume of output of agriculture | 3.1 percent. |

2. The volume of capital investment in 1984 shall be increased to 8,150,000,000 leva.

3. Foreign trade in 1984 shall be increased by 8.1 percent over 1983.

Article 2 (1) To ensure further fulfillment of the program for raising the people's living standard, the following 1984 indicators shall be increased, as specified, in comparison with 1983:

- | | |
|---------------------------------------|--------------|
| a) real per-capita income | 2.5 percent; |
| b) social consumption funds | 3.3 percent; |
| c) volume of retail goods circulation | 4.2 percent; |
| d) volume of domestic services | 6.2 percent. |

(2) In 1984 72,100 new housing units shall be built.

(3) The necessary conditions shall be created for further development of the arts, science and education.

Article 3 (1) The Council of Ministers shall organize the execution of the 1984 Integrated Plan for the Socioeconomic Development of the Country.

(2) The Council of Ministers shall include in the schedule of projects to be built in 1984 the projects suggested by standing committees and people's representatives during discussion of the plan that have been accepted as necessary by the Commission on Socioeconomic Development, the Legislative Commission and other standing commissions of the National Assembly.

(3) The ministries, other departments, executive committees of okrug people's councils and economic organizations shall provide the necessary conditions for the fulfillment and overfulfillment of state planning assignments and associated plans, giving special attention to the nationwide introduction of the latest achievements of science and technical progress and, above all, of advanced technologies and weight-reduced designs of high-efficiency machinery and equipment, to the rapid betterment of the quality of output, to the most rational utilization of raw-material and energy resources and production capacities, to the strict observance of technological, production and planning discipline, to the improvement of the socialist organization of labor and to the consistent application of the economic approach and its mechanism.

Article 4. It is recommended that the National Fatherland Front Council, the Central Council of Bulgarian Trade Unions, the Central Committee of the Dimitrov Communist Youth Union, the Central Council of Scientific and Technical Unions and the governing bodies of other public organizations and movements actively assist state agencies and economic organizations in launching nationwide socialist competition, in discovering all latent potential reserves, in introducing advanced Bulgarian and foreign experience on a wide scale and in fulfilling and overfulfilling the tasks springing from the integrated plan.

Final Provision

One paragraph only. The execution of this law shall be entrusted to the chairman of the Council of Ministers.

6474

CSO: 2200/2

BULGARIA

LAW ON 1984 BUDGET

Sofia RABOTNICHESKO DELO in Bulgarian 1 Oct 83 pp 1, 2

[Law on 1984 State Budget of Bulgarian People's Republic]

[Text] Section I. 1984 State Budget of Bulgarian People's Republic

Article 1. The 1984 state budget of the Bulgarian People's Republic is approved, as follows:

- | | |
|---|---------------------|
| 1. Revenues in the amount of | 17,754,200,000 leva |
| 2. Expenditures in the amount of | 17,739,200,000 leva |
| 3. Excess of revenues over expenditures | 15,000,000 leva. |

Article 2. Profit withholding taxes and other receipts from the socialist economy totaling 12,081,600,000 leva are established in the revenue portion of the state budget.

Article 3. The expenditure portion of the state budget specifies expenditures, apart from the sums provided for this purpose by the economic ministries and other departments from their own funds, in the following amounts:

- | | |
|---|--|
| 1. For financing of the national economy | 8,640,300,000 leva; |
| 2. For support of social and cultural activities--education, science, culture, public health and social security including expenditures under the budgets of State Social Security and the Council for Mutual Insurance of Members of Labor Productive Cooperatives | 5,972,100,000 leva,
2,950,100,000 leva; |
| 3. For support of agencies of state authority, state administration, courts and public prosecutor's office | 300,300,000 leva. |

Article 4. The 1984 Republic Budget, including dealings with the budgets of people's councils, the State Social Security budget and the budget of the Council of Mutual Insurance of Members of Labor Productive Cooperatives, is approved, as follows:

1. Revenues in the amount of	12,753,100,000 leva;
2. Expenditures in the amount of	12,738,100,000 leva;
3. Excess of revenues over expenditures	15,000,000 leva.

Article 5. The 1984 composite budgets of people's councils, broken down by okruga, are approved, as follows

Okruga	(000,000 leva) Revenues & expenditures in amount of
1. Blagoevgrad	123.4
2. Burgas	169.0
3. Varna	172.1
4. Veliko Turnovo	124.1
5. Vidin	67.1
6. Vratsa	92.8
7. Gabrovo	79.5
8. Kurdzhali	110.2
9. Kyustendil	77.1
10. Lovech	76.3
11. Mikhaylovgrad	80.0
12. Pazardzhik	109.0
13. Pernik	74.2
14. Pleven	115.5
15. Plovdiv	240.8
16. Razgrad	78.4
17. Ruse	103.4
18. Silistra	69.0
19. Sliven	100.0
20. Smolyan	89.2
21. Sofia People's Council	644.7
22. Sofia Okrug	117.8
23. Stara Zagora	141.3
24. Tolbukhin	96.5
25. Turgovishte	72.7
26. Khaskovo	114.1
27. Shumen	89.5
28. Yambol	86.4
Total	3,514.1

Section II. Report on Execution of 1982 State Budget of Bulgarian People's Republic

Article 6. (1) The report on the execution of the 1982 state budget of the Bulgarian People's Republic is approved, as follows:

1. Revenues in the amount of	16,687,700,000 leva
including revenues from the national economy	10,396,500,000 leva

2. Expenditures in the amount of 16,526,400,000 leva

including:

- a) expenditures for the national economy 8,655,300,000 leva
- b) expenditures for education, science, culture, public health and social security 5,568,300,000 leva
including expenditures under the budgets of State Social Security and of the Council for Mutual Insurance of Members of Labor Productive Co-operatives 2,714,300,000 leva
- c) expenditures for support of agencies of state authority, state administration, courts and public prosecutor's office 305,200,000 leva.

(2) The report on the execution of the 1982 Republic Budget is approved, as follows:

- 1. Revenues in the amount of 10,174,400,000 leva
- 2. Expenditures in the amount of 10,164,200,000 leva
- 3. Excess of revenues over expenditures 10,200,000 leva.

(3) The reports on execution of the 1982 composite budgets of people's councils, broken down by okrugs, are approved, as follows:

Okrugs	(000,000 leva)	
	Revenues	Expenditures
1. Blagoevgrad	125.9	124.2
2. Burgas	190.3	176.4
3. Varna	181.9	179.7
4. Veliko Turnovo	149.3	147.2
5. Vidin	81.0	76.7
6. Vratsa	106.3	103.9
7. Gabrovo	95.7	91.7
8. Kurdzhali	111.8	109.9
9. Kyustendil	87.7	84.2
10. Lovech	90.4	89.7
11. Mikhaylovgrad	81.9	80.3
12. Pazardzhik	122.3	119.3
13. Pernik	84.7	82.8
14. Pleven	118.0	116.0
15. Plovdiv	299.9	291.3
16. Razgrad	84.5	83.5
17. Ruse	120.5	117.3
18. Silistra	81.2	79.2
19. Sliven	119.3	114.5
20. Smolyan	103.9	102.4

[Continued on next page]

Okruga	(000,000 leva)	
	Revenues	Expenditures
21. Sofia People's Council	660.5	660.5
22. Sofia Okrug	130.8	124.9
23. Stara Zagora	164.4	163.6
24. Tolbukhin	109.8	106.9
25. Turgovishte	78.2	77.5
26. Khashtovo	121.1	120.4
27. Shumen	101.6	97.9
28. Yambol	94.2	93.6
Total	3,897.1	3,795.5

Supplemental and Final Provisions

Paragraph 1. The Council of Ministers shall allocate the Republic Budget by ministries and other departments and may, where necessary, make changes in the composite budgets of the okrug people's councils.

Paragraph 2. The execution of this law shall be entrusted to the chairman of the Council of Ministers.

6474

CSO: 2200/2

CERTAIN ECONOMIC SHORTCOMINGS OUTLINED

Sofia IKONOMICHESKI ZHIVOT in Bulgarian 7 Sep 83 p 3

[Leading article: "Updating of Output an Important Direction in Development of the Economy--Goal is Accelerated Introduction of Up-to-Date Products and Technologies"; "Joint initiative of the State Committee for Science and Technical Progress and of the newspaper IKONOMICHESKI ZHIVOT"; passages enclosed in slantlines printed in boldface]

[Text] Significant quantitative and qualitative changes are characteristic of our country's socioeconomic life today. In order to fulfill the decisions of the 12th BCP Congress, nationwide and comprehensive intensification of the national economy is under way in our country; further growth in the efficiency and quality of output is being achieved. /Underlying these processes are the accelerated updating of output and the introduction of advanced technologies./

The problems involved in the accelerated updating and introduction of modern products and technologies and in the achievement of high quality and efficiency have been placed in a new light in the theoretical studies and practical approaches evolved by Comrade Todor Zhivkov.

In 1982 and the first half of this year the processes of updating the national economy have increasingly been stepped up and improved. For the country as a whole the updating of output amounts to 6.7 percent. In key sectors these percentages are greater. In machine building it is 19.2 percent, in light industry 14 percent etc. Overall, new and improved output worth more than 2.4 billion leva has been produced, and obsolete and inefficient output amounting to about 27 million leva has been taken out of production.

These data show that /the pace and scale of updating still do not measure up to the high present-day requirements,/ since in a number of advanced countries they are significantly higher. For machine-building output, for example, the updating of product lines has been under way for less than 5 years. For machine building in the USSR, annual updating exceeds 28 percent.

/The updating of output is underestimated in our country./ The ministries, economic, engineering-and-applications organisations and enterprises still inadequately plan, provide incentives for, and carry out energetic updating activity. It is not perceived as a basic means of intensification, of raising labor

productivity and product efficiency and quality or as a means of affecting the three elements of the labor process--the tools of labor, the objects of labor, and labor itself.

"The periodic updating of output," Comrade Todor Zhivkov stressed in his speech to the National Conference of Party, State, Economic and Public Activists in Varna, "necessitates our being always ready to replace any output once it has become obsolete. For years on end we produce obsolete output on which we suffer losses not only in domestic consumption, but also in export. We have no right to tolerate this situation any longer. Moreover, in updating obsolete output we must always be ready with not just one, but several alternatives."

Our own and foreign experience shows that the additional expenditures of time and effort to update products not only guarantee the new product a high scientific and technical level, technological feasibility and commercial practicability, but also ensure a significant saving of time and resources for society.

The updating of output includes not only the replacement of produced items with products having improved and higher consumer features, but also their timely introduction.

/Updating must be considered differentially,/ with special attention given to the sectors and production processes that in the long term will shape the structure, the characteristics, and the distinctive features of the building of the material and technical base of a developed socialist society.

This raises important problems for the economic and engineering-and-applications organizations and enterprises, especially within the Ministry of Machine Building and Electronics. It is the duty of mechanical engineers to rapidly raise the technical level and quality of their output, and above all of output that determines the structure of our national economy, so as to ensure enhancement of its competitiveness and its recoupability in foreign exchange. At the same time, the updating of machine-building output is a necessary condition for the solution of this problem in other sectors of the national economy as well.

Special attention must also be given not only to nondurable, but also to durable consumer goods for satisfying the needs of the working people.

It is obvious that without modern updating processes all sectors cannot, in good time, solve the country's problems of social and economic development and, in particular, cannot guarantee the economical and rational use of raw materials, supplies and energy, the efficient use of secondary raw materials and resources, the increase of labor productivity, the provision of occupational safety and environmental protection, and the further satisfaction of the population's constantly growing needs.

/The effect of updating/ products and raising their technical level and quality in enterprises and on a scale of the entire national economy /depends in great measure on what is introduced into production and when and how/.

Comrade Todor Zhivkov has repeatedly emphasized the exceptionally great importance of rapidly introducing modern and highly efficient scientific and technical achievements into practice in order to achieve high and lasting economic results. It is on the introduction of new technologies and the rapid mastery of new products that the further development and future of the economy, our progress today and tomorrow, depend. /Our task now is not just to introduce the latest thing, but to introduce what is economically advantageous, which can be advanced products and technologies/, peak scientific and technical achievements, as well as Bulgarian and foreign progressive experience. We must create the preconditions for the stable competitiveness of our products in the markets and for effecting and maintaining a technical standard measuring up to world-class achievements.

The problems involved in the introduction of new techniques and technologies are closely related to the elevation of the technical standard of output. Therefore they cannot be solved without thorough study and knowledge of the state of the art and trends in the development of the pertinent production process and the needs and requirements of the market, or without closer dovetailing of science and practice. To solve these, economic, scientific and engineering-and-applications organizations and enterprises, exercising the necessary responsibility, must carry out the comprehensive and systematic updating of products and cut down development and introduction time in order to ensure competitiveness, quality and efficiency.

Participants in the solution of this extremely important and complex problem are economic managers, scientists, engineers, designers, everybody engaged in the creation of new technology and consumer goods. The institutes of the Bulgarian Academy of Sciences, institutions of higher learning and engineering-and-applications organizations will have to ensure the highest scientific and technical level of new developments. The key to this is a significantly more thorough and comprehensive study and application of the best achievements in techniques and technology, improvement in the level of their own research and developments, and strict observance of the established regulations for the creation, introduction and production of new output. "Our products," Comrade Todor Zhivkov points out, "must have both a higher technical standard and a more esthetic external form, must be less materials-, energy- and labor-intensive, must have fewer maintenance requirements and greater safety in protection of the work and natural environment etc."

/Counterplans for 1984 are now being discussed and worked out in our country./ Ministries, economic and engineering-and-applications organizations and enterprises must concretely, comprehensively, and taking a longer perspective, target high rates of capital replacement and updating of products with qualitatively new output having high consumer value. The rate must be set and judged in comparison with progressive Bulgarian and foreign experience and in no event must there be any easing up because of progress compared with our situation in the previous period.

In this connection, ministries, economic organizations and enterprises are going to have to reorganize the entire job involved in production preparations, in the modernization of manufacturing equipment, in ensuring the wide use

of standardized manufacturing processes and flexible manufacturing layout. At the same time, improvement in the efficiency of the use of capital assets must be ensured by replacement of the existing ones. /Every machine, every workplace, every mode of the organization of production is to be brought up to date./ Herein lies a great latent reserve for raising labor productivity, for successfully performing the tasks that the party assigns.

One of the main tasks in product updating must be improvement in the country's production structure so as to reduce the consumption of materials and energy.

Ministries and departments must constantly study the experience of the USSR and other socialist countries and of the counterpart leading firms in the world in updating their output, and this experience must be more widely used in planning the updating, and in evaluating the activity of trusts, enterprises and ministries.

/To accelerate the updating of produced output, further development of standardization and unification are needed./ A high level of standardized structural elements, parts, assemblies and modules makes it possible to organize fluidly and efficiently specialized production and to obtain a high multiplication effect in the national economy. Moreover, the rapid and efficient creation of wide ranges of specialized equipment, machinery, facilities and apparatuses becomes possible on the basis of uniform basic models. In the updating process great attention must be paid to ratio per enterprise of modern means of measurement, testing and for the preventive and current quality control of output in keeping with the parameters defined by the standards and technical specifications. At the same time, the demands made by economic managers on the technical and quality controllers of product output must be raised, as must also the responsibility of certain party and trade-union organizations for unwarranted liberalism in this regard.

/The accelerated updating of output is also directly dependent on improvement in the ways and methods of technical production preparations./ It is known, for example, that introduction of the Uniform System of Technological Production Preparations makes possible a 10- to 15-percent curtailment of the time and the necessary resources for the startup of new output in mass and single-lot production and up to 35 percent in single-unit and small-lot production.

And not last, updating depends very much on how we tie it in with the economic mechanism, on how we use the existing possibilities of economic and moral incentives for workforces and individual participants in this process.

As a result of the quality survey now under way in the economic organizations and enterprises, additional tasks and measures to assure high efficiency and quality will be determined which will have to be planned and accomplished in connection with the job of updating and introducing modern products and technologies.

None of these tasks is easy or a one-time act or campaign. An extremely big and difficult job lies ahead, but this is the only alternative of our scientific and technical policy. What is required is full mobilization of strength, energy and resources for the accelerated updating and introduction of high-quality and efficient products and technologies in order worthily to greet the National Party Conference.

BULGARIA

REPORT ON BIG FIRE AT PETROCHEMICAL COMBINE IN BURGAS

Sofia POGLED in Bulgarian 3 Oct 83 p 3

[Interview with Gen Iliya Donchev, chief of the Central Fire Safety Administration of the Ministry of Internal Affairs: "On the Subject of Fires After the Fire"]

[Text] Two major fires occurred during the past few days: At the Petrochemical Combine in Burgas, a major national project; and at the circus building in the center of Sofia. This drew the attention of the public to the threat of fires, and it was quite natural for POGLED to seek out Gen Iliya Donchev, chief of the Central Fire Safety Administration of the Ministry of Internal Affairs.

[Question] Could the fires at Neftokhim and the Sofia circus have been prevented?

[Answer] The fire at the Petrochemical Combine was caused by the elements: The electrical system was damaged as a result of the torrential rains. In this case blind fate is to blame. As to the circus, the proper authorities are still trying to determine the causes.

[Question] Your services are on duty every day. It would be pertinent to ask what are the losses caused to Bulgaria by fires?

[Answer] When we speak of losses caused by fires we usually mean the burned out part. Let us not forget, however, that indirect losses from unproduced goods are substantially higher. According to statistics, they are higher by a factor of 5 or 6 in agriculture and 15-17 in industry.

[Question] Is suitable attention being paid to this hazard?

[Answer] It was no accident that 4 years ago we passed a new law on fire safety, something we greatly needed. This was followed by other government rules. I can state quite responsibly that this increased the responsibility and concern for the protection of the people's property from fires. Today a number of chemical, power, machine building, electronics, metallurgical and many other projects are protected much better. Several thousand projects are considered fire-safety models.

[Question] You travel frequently. From what areas do you come back with a particular feeling of satisfaction?

[Answer] From Pazardzhik Okrug, for example. For the past 7 years there have been no important fires in that area and very good conditions for the protection of the people's property have been created. Sliven and Burgas Okrugs are also models of fire protection, and so are major industrial works such as the Petrochemical Combine in Pleven, the Devnya Chemical Combine, the Dimitur Dimov Chemical Combine in Yambol and the Petrochemical Combine in Burgas.

[Question] But then was it not precisely the latter which had the biggest fire?

[Answer] I repeat, this was the result of a natural disaster. If fire prevention measures had not been taken there under the guidance of the party organs the fire could have assumed terrifying proportion and adversely affected our entire economy.

[Question] Are you saying that it was put out easily?

[Answer] A fire in a chemical combine remains a fire and is not easy to put out. Our troops are familiar with the nature of the combine in Burgas. They know its cost to the state, and did everything to save it. Mass heroism was displayed in Burgas, and I am not afraid of using such a strong word. At one of the critical points I was with the boys who were fighting in the most dangerous area. When I told them "Boys, we must do everything possible to save the combine," one of the troops, who seemed to reflect the feelings of the others, answered: "Comrade General, we shall save the combine even if we have to die for it!" Why am I telling you this? This gives one a special feeling to hear such words, for they are not said at meetings where appeals and pledges are made, but in the midst of a fire, when one is waist-high in petroleum with the knowledge that one can be on fire at any moment and burn like a torch. This was not an isolated example and that is why I respect my boys. Do you know, for example, that if the fire in Sofia had not been confined to the circus building the entire district around it would have burned down?

[Question] We too respect daring actions. But does it not seem to you that sometimes such heroism is unnecessary? Someone fails to do his job somewhere and someone else must deal with the consequences at the risk of his life.

[Answer] Unfortunately, some fires, which require courage to put out, are caused by people who should have taken suitable measures to prevent them. It is no exaggeration to say that many such cases prove the existence of carelessness and irresponsibility, disregarding the recommendations of the specialized authorities. For instance, without the knowledge and permission of our services, the management of the Trakiya Factory in Dimitrovgrad used as a warehouse one of the premises of the public library in Dobrich Village, Khaskovo Okrug. This warehouse met absolutely no fire safety standards. In addition to everything else it used a coal heating stove with a defective pipe. It caught fire and fabrics worth some 250,000 leva burned down.

[Question] What are the most worrisome reasons for fires?

[Answer] Of late more fires have broken out as a result of defective electrical installations, equipment and systems. In many places the circuits are overloaded; elsewhere obsolete installations and equipment are not promptly repaired....

[Question] Do some people consider observing the regulations an unnecessary luxury?

[Answer] Unnecessary luxury or unnecessary burden is one and the same. That is why we frequently take people to court. Only a few days ago some tobacco industry managers had to swallow a bitter pill after appealing the penalty we levied on them and which was confirmed by the court. Despite strict instructions the large tobacco warehouses are still not fire safe. One of the shops of the Stefan Dechev Timber Processing enterprise was closed down recently for failure to install a fire hydrant. Just imagine, a timber processing enterprise without water! The problem was resolved in a matter of days. But why is it necessary to stop the work in factories and plants with all consequent losses to the national economy?

[Question] Some say that there always have been and will be fires. Do you agree?

[Answer] Fires must be prevented, which is our main activity. Together with the managements of enterprises, establishments and organizations we must detect and eliminate causes for fire promptly. In this respect both the fire fighters and the managements owe something to the national economy.

5003

CSO: 2200/12

REPORT ON MEETING WITH BULGARIAN BUSINESSMEN LIVING ABROAD

Sofia ECONOMIC NEWS OF BULGARIA in English No 8, 1983 pp 1, 3

[Excerpt]

From May 9 through 15 the Bulgarian Chamber of Commerce and Industry and the Committee of Bulgarians living abroad organised a meeting and dialogue on economic and scientific-technical cooperation with Bulgarian businessmen living abroad. Taking part in the event were the owners

and executives of companies in 15 foreign countries. The guests were given the opportunity of visiting industrial plants, agro-industrial complexes and tourist sights all over the country: they were also shown round the 3rd International Plovdiv Fair for Consumer Goods.

During the business part of the meeting-dialogue, the participants were briefed by the Deputy Prime Minister Andrei Loukanov on some topical issues of Bulgarian socio-economic program and consistent policy of peace and understanding between nations. The Minister of Foreign Trade Hristo Hristov made an exhaustive review of Bulgarian foreign economic ties and their high and stable growth rates; he outlined the prospects for the coming years. The guests were informed of Bulgaria's part in industrial East-West collaboration, the opportunities for setting up joint ventures with foreign participation on Bulgarian territory, and the financial and currency aspects of this country's economic activities.

Deputy Prime Minister Andrei Loukanov read a message of greetings by the President of the State Council of the PR of Bulgaria TODOR ZHIVKOV to the participants in the Meeting-dialogue.

Below, the MESSAGE:

"Esteemed compatriotes,

"On behalf of the State Council and the Government of the People's Republic of Bulgaria and of myself personally I cordially bid you welcome to our native country, Bulgaria.

"The idea about a Meeting-dialogue which arose among you, the Bulgarians living and

working in various corners of the world, is being translated into reality with the active concurrence of the Committee of Bulgarians living abroad and of the Bulgarian Chamber of Commerce and Industry. We - and it is not only my own opinion that I am voicing - are convinced that this your business forum will make its real, however modest, contribution towards the establishment of more normal and better business relations between the partners from diverse countries. In the present grave complication of the international situation and of trade and economic relations world-wide, every well-intended and realistic impetus towards strengthening trust and constructive businesslike teamwork acquires particular importance.

"We welcome you to this Meeting as respected business executives who by sheer application and enterprise have won a worthy place among the business circles of the economically developed countries in which you reside. At the same time it is our view and hope that by keeping alive your ties with the Bulgarian people, who have always been characterised by industriousness and an ambition to communicate constructively with all nations on the planet, you could ever more intensively develop mutual relations of trade and industry ventures with our economic and foreign-trade organisations.

"Your present Meeting, your dialogue with the economic workers of socialist Bulgaria, the visits you will make to various towns and historic places will show you our homeland entirely renovated and changed. Bulgaria of today has an industry quite significant for this country's standards, and a modern agriculture. The structure and dynamism of our economy underwrite and balance our foreign economic relations both commercially, financially and with regard to credits. Our economic achievements, notably in the aspect of living standards, are eloquently displayed also at this year's Third Plovdiv Spring Fair, which as I am told you have been able to get acquainted with.

"Dear compatriotes,

"I am confident that you are very well aware of the prime factor of our country's material and cultural progress. This progress is due to the vigorous efforts of the whole of our people, to the inspired performance of our working class, the people employed in agriculture and the people's intelligentsia, they are the result of Bulgaria's consolidated positions in the world as a worthy ally of the socialist community countries, and as a country with its own contribution to the efforts for a peaceful development of international relations in the Balkans, Europe and the world.

"In matters of international economic cooperation, the People's Republic of Bulgaria con-

When the Bulgarian business executives living abroad took the floor at the Meeting, they voiced their excellent impressions of Bulgaria's achievements in the sphere of industry, agriculture, tourism and the social sphere. There was consensus that the Bulgarian economy of today offers broad opportunities for mutually beneficial collaboration.

In the ensuing numerous meetings with the leaders of Bulgarian economic, foreign-trade and engineering organisations, a discussion developed on concrete issues and ideas on cooperation in the field of mechanical engineering, electronics, the chemical industry, the light industry, telecommunications, agriculture, tourism and general engineering.

The Meeting and dialogue with Bulgarian business executives living abroad reaffirmed the efforts of the PR of Bulgaria to take an active part in international economic life. In expanding world

sistently pursues a policy of equal and mutually profitable commercial and economic relations with all countries regardless of their social and economic systems. This invariable orientation of our foreign economic policy, and the increased potentials of our economy more and more promote our state as a sought-after and respected foreign economic partner of various countries and leading companies from all corners of the world. We maintain nowadays regular trade and economic relations with more than 120 states, founded on principles which ensure mutual respect for each other's interests and benefit.

"I am profoundly confident that despite the existing difficulties and artificially raised barriers, these relations will get stronger and will make progress, simply because they correspond to the invariable demands of life and because they are among the tried and reliable ways that enable us to live in peace, understanding, cooperation and progress.

"Let me wish fruitful and creative work to your Meeting. It could lay a solid foundation for the holding of new similar forums, which can become traditional. We would sincerely welcome the beginning of such a fine tradition.

"Until we meet again, dear compatriotes, in the interest of the peaceful communion of all nations and countries on the planet!"

TODOR ZHIVKOV

economic cooperation Bulgaria sees one of the surest ways of achieving understanding among peoples, a lasting peace and social progress world-wide.

Some of the participants in the Meeting made statements:

VYACHESLAV GENOV - President of the Bulgarian-Argentine joint ILEX Company, Chairman of the joint Argentine-Bulgarian Chamber:

"I was pleasantly surprised by what I saw in Bulgaria, notably her major economic successes. The Bulgarian-Argentine Company ILEX which I represent, works in the light industry field, and has tackled a number of projects, some of which have now been realised. As Chairman of the Joint Chamber formed on Dec. 12, 1982, I would like to say that it enjoys wide opportunities ahead to help promote economic relations between the two countries."

ANISSIM HRISTOV - Austria, proprietor and manager of

the company of the same name and Asst. Chairman of the Austro-Bulgarian Friendship Society:

"I have been looking forward to this Meeting for many years now. It opens before us vast opportunities for economic cooperation. As Bulgarians living abroad we are duty-bound to respond to these opportunities. I have always wished that all Bulgarians, no matter where they live, should work for the good of their homeland.

"Today we take pride in a Bulgaria which is an equal-rights and respected economic partner. The way has been paved for expanding and developing economic contacts, and one of the forms is State Council Decree No. 535 for setting up joint companies on Bulgarian territory.

"I am aware that every beginning is difficult. The present Meeting gave us an opportunity to come together and get to know each other, in order to discuss jointly our active stand on the realization of future projects.

ALLA IVANOVA - shareholders' representative of the Bulgarian-Swiss "Tangra" company:

"I am proud of being one of the founders of the Tangra joint company in Bulgaria. What we have done shows that State Council Decree No. 535 can become reality. Our company deals in the manufacture of all kinds of writing aids, and it is our ambition to gain popularity for our trade mark by manufacturing and offering highest-quality products. The factory we built in Bourgas has now started operation, and before long we intend to master more advanced and difficult technologies. Export of our goods is planned also to go to third countries. I am particularly pleased to stress the high expertise of the Bulgarian specialists with whom we have been working."

ILIYA ILIEV - Vice-president of Canadian Main Service Co., Canada:

"The Meeting we held was very well organized and I hope there will be other similar meetings in the future. I learned a great deal about Bulgaria and I genuinely feel happy about her progress. While touring the country I saw numerous modern plants and factories, I realized how many countries are Bulgaria's partners, and I saw what machines and equipment this country exports. Its vast economic potential impressed me, and so did the fine opportunities for joint realization of the major projects offered by the Bulgarian economic and engineering organizations.

GABRIEL ORESHKOV - Vice-president of "Hunter Douglas", Holland:

"We have good contacts between the firm I am representing and your engineering construction organizations; we work jointly in third countries, too. I would like to establish a closer cooperation here, on the territory of this country. This Meeting was very well organized. I remember Bulgaria as a backward country, but today it is a country with a dynamic economy and trade, and high living standards which are a good foundation for commercial dialogue. What is very interesting in the country's economic life is the vigorous initiative which your companies and enterprises display. I realize that this process is related to the new economic mechanism you are introducing, but of course also with the scope and competence of the people who manage the business life of the country. I maintain business contacts with "Technoexportstroy", "Rudmetal" and "Metalni Konstruktsii".

RESEARCH ON FREEZING STRESS ON WHEAT SEEDS PUBLISHED

Prague ROSTLINNA VYROBA in Czech No 6, 1983 pp 643-652

[Article by V. Segata, Research Institute for Plant Production, Prague-Ruzyně: "Influence of the Intensity of Frost Stress on Growth Activity of Wheat Seedlings"]

[Text] Abstract. The analysis has demonstrated the normal distribution of the magnitude of growth of new leaf mass on cut seedlings of winter wheat both on control plants and on plants which have been exposed to frost stress of increasing intensity. Depression is relative to the intensity of the frost stress and is a sensitive criterion of the extent of nonlethal plant disturbances. Weak stresses as well as the induction of resistance at temperatures below the freezing point exert a clear influence on the subsequent growth activity of plant cuttings. A correction in absolute growth is proposed so that changes such as those associated with the resistance of a genotype and the level of ambient temperatures will not influence the evaluation of frost resistance. A parallelism was demonstrated in the changes in the extent of lethal and nonlethal damage to plants caused by frost of graduated intensity. A depression in relative leaf growth occurs as a result of substantially weaker frosts than those causing a reduction in the percentage of plants surviving stresses. Depression both of growth activity and in the percentage of surviving plants alike are characteristic of differences in genetically or ecologically induced resistance only given consistent intensity of frost stress.

Winter Wheat; resistance to frost; induction of resistance; rapidity of growth; plant damage [appear to be cross reference headings].

The reason for evaluating the resistance of agricultural crops using direct methods under regulated conditions is to determine the reaction of plants to conditions simulating a stress situation, thereby eliminating the dependence of such an evaluation on the unreliable chance that such a situation will occur in the winter in the CSR. Given these conditions, genetically or ecologically

conditioned resistance may be characterized by the magnitude of the damage caused by frost to a set of plants exposed to a single or equally to multiple, differing frosts. The extent of the damage to each plant of the experimental group is then evaluated visually following further cultivation under conditions favorable for the growth process. Alternatively, the magnitude and character of the disruptions is evaluated shortly after the end of the freezing-thawing cycle with the aid of various physical or physico-chemical and biochemical methods (Lavitt 1972). This principle is also utilized when the initial phases of growth and adaptation also take place under regulated conditions simulating the course of determining climatic factors.

Kretschmer (1960) discovered that the length of leaf growth measured after the cultivation for a few days of plants previously cut and exposed to frost very accurately characterized the extent of the damages caused. On the basis of demonstrated congruences between the size of growth and the percentage of plants surviving various frosts, he asserted that change in relative growth activity was a reliable criterion for defining the resistance of a genotype to frost. The method thus developed proved reliable in the evaluation of the resistance of plants of various strains taken over the course of a winter from experimental pieces of land. (Kretschmer and Beger 1966; Warnes and Johnson 1972). Schwarzbach (1967) used these techniques for wheat seedlings exposed to a single temperature below the freezing point. Later, however, in 1972, he rejected the usefulness of this technique for an evaluation of the genetically conditioned differences in the resistance of etiolated seedlings of winter barley, based on the twin peaked curves of the relative members of leaf growth groups.

In view of the established very great sensitivity of growth processes to abiotic stresses (Hsiao, et al 1973), and in view of the previously demonstrated appropriateness of a determination of the growth of new leaf mass and root mass for an evaluation of the extent of damages caused throughout the winter to stands of winter crops (Segeta 1963), we are turning our attention in this article to the connection between changes in the growth activity of winter wheat seedlings and the intensity of frost stress. To date the necessary attention has not been devoted to this question or to a comparison of the level of frost causing changes in the depression of growth or in lethal disturbances.

Materials and Techniques

We obtained the seed of the winter wheat strains from the enrichment stations of Oseva national enterprise, which carry out their maintenance enrichment, and from the department of genetic resources and taxonomy of our institute.

Equally sprouted seeds were laid, equidistant, 20 mm from the edge of a moistened 60 mm by 300 mm long strip of filter paper in such a way that the coleoptile always was pointed at the upper edge. After laying out all 20 seeds, an equally large piece of cellophane was laid on top, and from one end the entire strip was then carefully rolled up so that the position of the individual sprouts would not change in any direction. The cellophane prevented the growth of the seedling roots along the radius which resulted from

the rolling up of the tape and reduced the risk of mechanical damage to the roots during the handling connected with cutting the seedlings. After rolling, each roll was covered with a strip of polyethylene foil which assured equal humidity. Each variant was represented by a minimum of three to four repetitive rolls. The rolls were then placed upright into polystyrene boxes (19 cm x 9.5 cm x 6.5 cm), which were covered from above always by an identical box.

The boxes were placed in darkness at a constant temperature of 20°C. After a specific cultivation period, usually 5 days, the boxes with the seedlings were then placed in a cooling chamber with a temperature of +0.5°C, where they were left for the entire adaptation period at this positive temperature. Prior to the introduction of frost or hardening at temperatures below the freezing point, and after unwrapping the rolls, the seedlings were cut with a razor 20 mm from the base of the plant (i.e., near the upper edge of the filter paper). The rolls were then again rolled up and placed in their boxes according to the plan of the experiment for the exposure to frost and hardening.

For the exposure of specific variants to graduated levels of frost, the experimental material was moved to a larger refrigeration chamber, the temperature of which was then lowered gradually so that temperature changes would not occur faster than 1.8-2.2°C per hour. When the first of the planned exposure temperatures was reached, the boxes containing the rolls with the variants being studied were carried into a smaller cold closet which had been set previously at the desired temperature. The procedure was the same when the temperatures were reached in the refrigeration chamber for other variants during further reductions in air temperature. Each experiment included a minimum of three or four, and often five or more treatments differing by 2-3°C from each other. The effects of temperature were studied on each variant for 24 hours. At the end of this time the refrigeration equipment was turned off and warming took place at a rate of 1.6-2.0°C per hour. From air temperature data of the cold closets monitored regularly throughout the entire experiment with mercury thermometers and thermographs the actual mean temperature of each variant was determined for the evaluation of the results of the experiment. The control, non-frost treated variants of each of the groups of differential adaptation were placed, after the completion of the freezing-warming cycle, at a temperature close to the freezing point that would limit almost totally the growth of new foliage.

After warming, when the temperature of all cold closets had reached +1 to +2°C, the boxes were separated and, along with the control variants, 1 ml of water was added to each roll, the rolls brought to cultivating temperature (20°C) and then left in darkness for 3-4 days. For every variant of a given experiment, the length of the period of poststress cultivation was the same. In evaluating growth changes, the length of newly developed leaf mass was measured above the level of the coleoptile cut of each seedling, with an accuracy of 1 millimeter. Individual specimens which did not sprout or the coleoptile of which did not reach a length of 20 mm after cutting were not included in further calculations. We included in the group of dead plants not only seedlings which showed no growth but also those the leaf growth on which did not exceed 3 mm. This was because we had determined previously (Segeta 1963) that such growth does not indicate plant vitality. For each repetition, then, the

calculated mean growth and percentage share of live seedlings was used to characterize the impact of each frost stress intensity.

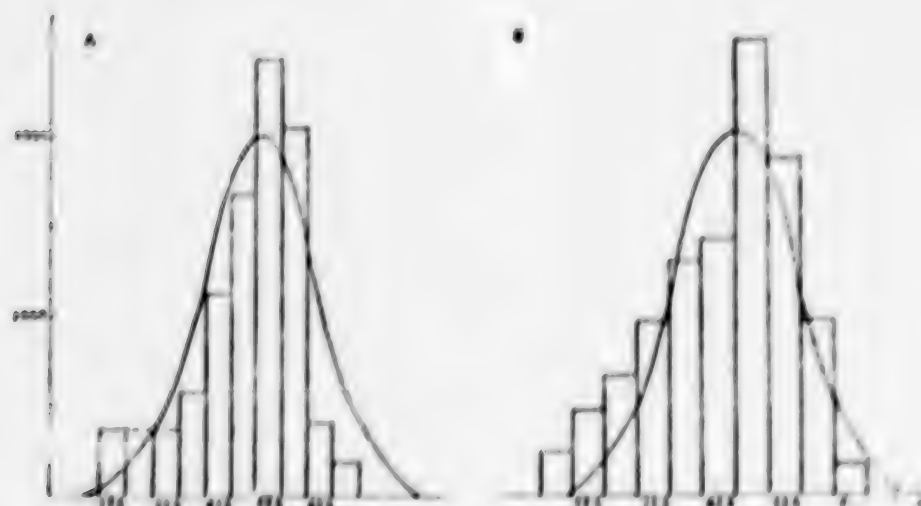
The results of the experiment were evaluated using the appropriate biometric techniques (Grubý 1950; Rod and Wagnerova 1958).

Results

By way of introduction, we are recording those results of these experiments which are meant to answer the objection that the distribution of leaf mass size increases for seedlings after cutting their sprouts and treating them with frost does not accord with the premise of the application of biometric methods to the evaluation of the overall variability of growth activity and its separate sources.

A normal distribution of the rapidity of leaf growth of cut seedlings is demonstrated by the relative frequency of various large leaf growth increases discovered after 3 days of cultivation of cut sprouts of the Mironovska 808 strain of winter wheat. The plants were not treated by freezing, but only by hardening at $+0.5^{\circ}\text{C}$ (A), or likewise 3 days at -2.0°C (B). A comparison of the histograms (Figure 1) for the above variants make possible the simultaneous representation of two-dimensional normal curves. It is clear that in both variants of the experiment deviations of the distribution from a normal curve are only small and that the frequency of groups with large growths increased under the influence of induction at temperatures below the freezing point.

Figure 1. A comparison of the normal and relative mean frequency (in units of standard deviation) of leaf growth groups of winter wheat control plants hardened at $+0.5^{\circ}\text{C}$ (A) and at -3.0°C (B).



A further experiment with seedlings of the Hironovska 808 strain consisted of eight variants of graduated frost stress in which the seedlings, after 5 days of cultivation at 20°C, were hardened for 45 days at +0.5°C and then 3 days at -1.0°C. Because each such variant was represented by 10 repeats (i.e., rolls), leaf growth was determined for a minimum of 150 plants. To maintain readability, we did not fill in completely the curves picturing the distribution frequency (in units of standard deviation) of absolute growth for every variant of stress intensity by drawing the pertinent normal curve. Nevertheless, it is clear from Figure 2 that with increasing degrees of frost there is a decline not only in the most frequently occurring leaf growths but also in the numbers of the most frequently represented growth groups. The relative range of growths under individual partial stresses (and for the control variants) does not change much over the entire range of temperature utilized in the experiment. An exception is the variant treated to the greatest degree of freezing, for which a negative excess was evident and an extremely positive asymmetry. Heavy stresses led, of course, not only to a reduction in the growth activity of the cut plants (noticeable from the values of the most frequent growths and the frequency decline in such a group), but also to an increase in seedling mortality. However, no deviations from a normal distribution are evident for any variations of partial stresses, given the method for differentiating between lethal and sublethal stresses that was used.

Figure 2. The distribution of relative mean frequencies of leaf growth groups (mm), as found in seedlings exposed to partial frost stresses (-4 to -18°C)



The results of this extensive experiment not only demonstrate the appropriateness of a biometric evaluation of the results of the determination of frost-induced changes in growth activity, but at the same time demonstrate the variability that plagues the mean values thus derived. This fact must be kept in mind, particularly when for certain variants the frost stress causes a simultaneous mortality that makes it possible to measure growth only for a small number of subjects. This question is very important in the event that in a

given test it is possible to evaluate resistance only after exposure to a stress of a single intensity.

In none of the many experiments in which seedlings have been hardened at positive temperatures, which to the maximum possible extent have limited further plant growth, have we as yet discovered a connection between subsequent growth of the cut, control, non-frost treated plants and the duration of this induction. Only very long adaptation (more than 60 days) or unstable temperature conditions led to a weakening of seedling growth activity.

In contrast to this, the effect is always evident of adaptation at low frost levels, i.e., conditions which very significantly increase resistance (Segeta 1982) to future growth even of control, non-frost treated seedlings. This is shown by the excellent growths shown in Table 1, which were obtained after 4 days of cultivation of the seedlings of two winter wheat cultivars. The plants were precultivated for 4 or 6 days and then hardened either solely at +0.5°C or also 2 to 8 days at -2.0 or -4.0°C.

Table 1. Mean absolute (mm) and relative (%) leaf growth in seedlings of two winter cultivars hardened at -2 and -4°C for different periods of time after being precultivated for 4 and 6 days and adapted at +0.5°C for 42 days.

Cultivar	Induction		4 days		6 days	
	°C	days	mm	%	mm	%
Bezostaj I	+0.5	-	34.5		26.8	
	-2	2	35.5	103.2	27.3	101.9
		4	37.1	107.5	29.0	108.2
		6	38.0	100.5	30.0	111.9
		8	34.3	99.7	31.0	115.7
	-4	2	35.0	101.7	28.5	106.3
		4	36.8	107.0	31.9	119.0
		6	35.9	104.1	33.3	124.2
		8	37.0	107.6	30.0	111.9
	+0.5	2	39.2		31.2	
		4				
		6				
		8				
Jubilar	-2	2	38.1	97.2	33.3	106.7
		4	41.0	104.6	35.2	112.6
		6	42.2	107.6	31.6	101.3
		8	43.0	109.7	30.8	98.7
	-4	2	38.5	98.2	30.3	97.1
		4	37.6	95.9	29.5	94.5
		6	38.5	98.2	28.0	89.7
		8	34.3	87.5	29.0	92.9

It is clear that the average length of leaf growth differs for the two genotypes and that it is less for the seedlings precultivated for the longer time. For the plants of the more resistant cultivars both negative temperatures stimulated subsequent growth activity above the level determined for the variant exposed only to a temperature above the freezing point. This effect, which has been well documented with relative values, increases in most cases with the prolongation of the exposure to constant freezing temperatures. On the other hand, such an influence on seedlings of the Jubilar cultivar ^{was} evident only after exposure at -2.0°C , while brief exposure at -4.0°C led to a weakening of leaf mass growth for the cut seedlings. The longer such exposure lasted, the greater was the depression of subsequent growth.

Table II. Analysis of variance--relative leaf growth values (after angle transformation)

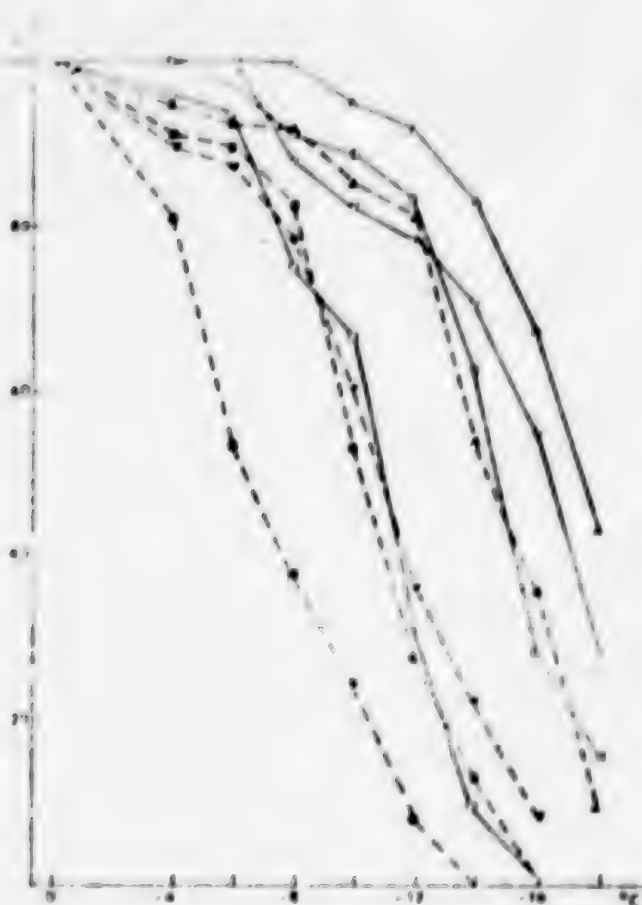
Source of Variability	N	V	F	P
Genotypes (A)	1	546.7	7.0	0.01
Cultivation at 20°C (B)	1	1105.3	14.1	0.01
Length of Induction (C)	3	119.8	1.5	
Induction of Temperature (D)	1	752.1	9.6	0.01
Repeats	3	7.0	0.1	
Interactions: A x B	1	236.2	3.0	0.05
A x C	3	186.8	2.4	
A x D	1	218.4	2.8	
B x C	3	552.5	7.1	
B x D	1	61.6	0.8	
C x D	3	488.5	6.2	0.01
Noncontrollable Factors	164	78.0		

These conclusions are confirmed by the results of a variance analysis (Table II). Leaf growth recorded for all repetitions of individual variants hardened at negative temperatures were recalculated as mean values established for seedlings of each cultivar and a growth phase exposed only to $+0.5^{\circ}\text{C}$. What is significant are the differences between cultivars and their variously developing seedlings, and also the variants hardened at various negative temperatures. The length of induction at temperatures above 0°C , on the other hand, had no evident significant effect. Its impact was conditional on the growth state and was specific and different according to the induction temperature.

A comparison of the influence of frost of graduated intensity on leaf growth of cut seedlings of various cultivars confirm the values determined in one of the further experiments. Seedlings of four winter wheat cultivars, after 6 days

of cultivation at 6°C, were hardened for 42 days at +0.5°C and for 3 days at -3.0°C. The leaf growth for all plants of each repetition of all nine variants of graduated frost intensity were recorded following 4 days of cultivation at 20°C. The curves pictured in Figure 3 were constructed from the relative values (in percentages of data obtained for control seedlings of each cultivar) of the calculated mean leaf growth per single live plant in each stress variant.

Figure 3. Changes in relative leaf growth values (—) and in the proportion of surviving plants (---) caused in the seedlings of four winter wheat cultivars by frost stresses from -4°C to -18°C.



The shape of these curves shows very strikingly the sensitivity of the system regulating the leaf growth of the cut seedlings to the stresses caused by graduated levels of frost. As with the decline in the percentage of surviving plants, the depression of growth activity increases with increasing stress intensity. Growth changes correspond to genetically conditioned differences in resistance. Moderate frosts cause only a slight reduction in leaf growth.

Growth activity, however, very sharply declines over a relatively narrow temperature range (4°C to 6°C). This range is about the same for all cultivars, although the actual temperature levels forming its boundaries are specific to each genotype.

Curves showing the percentage of plants surviving graduated frost stress run parallel to those showing changes in growth activity. It is clear that lethal effects are evident only at substantially greater frost levels than those which cause growth reductions. It is also apparent that differences in the ability of specific cultivars to survive stress correspond to those which determine changes in growth activity.

Differences between both criteria of reaction to graduated stresses vary according to the specific cultivar. The differentiations are substantial between specific cultivars from the viewpoint of the temperatures causing a reduction in leaf growth and those causing a significant reduction in the percentage of surviving plants. The depression of both characteristics in seedlings of the Bezostaj 1 cultivar was greater following weak stresses than for the Grana cultivar. Only at heavier frost levels did the first genotype show greater resistance in terms of both growth and mortality. Similar differentiations in the reaction of genotypes to unequal frost levels are frequent in comparisons of larger sets of cultivars and attest to the fact that a genetically or also ecologically conditioned resistance of plants to frost is evident only at equivalent frost stress intensities. This fact can play a role in evaluating hardiness based on the results of exposing experimental plants to only a single frost stress intensity.

Discussion

Etiolated seedlings have been used in many projects (Segeta 1980) as a model appropriate for the study of certain aspects of the physiology of the resistance of grains to frost. By using rolls of filter paper as the bearing medium of the seedlings (Segeta and Nosinec 1973), further reductions were made in demands on energy, space and technical equipment, and handling facilitated during the various stages of research conducted under regulated conditions.

Just as it does for plants developed in the fall under natural conditions, the approach proposed by Kretschmer (1960) eliminates for seedlings as well the complications and subjective factors which had plagued evaluations of the extent of damage to plants brought about by the experimental freezing-thawing cycle. The determination of the length of leaf mass growth after several days of cultivation of cut and frost exposed plants made possible, following Kretschmer (1960), Kretschmer and Begerova (1966) and Schwarzbach (1967), the reliable evaluation of genetically conditioned differences in resistance. Also important was the reduction in the time of cultivation necessary for a clear differentiation of the effects of frost. The 2-day period made it possible for Marshall (1965) basically only to differentiate between those plants that had survived or not survived the frost.

The Kretschmer approach fully respects the importance emphasized by Olien (1967) and by Olien and Marchetti (1976) of the basal parts for plant vitality and the complex and slow course of the manifestations of primary and secondary disturbances of the base and the sprouting junction of grains. These facts must be kept in mind as well in cases of the simpler structure of the base of seedlings.

The results of the research into various aspects of the physiology and ecology of resistance of winter crops to frost (Segeta 1979) have led us to the determination of the as yet undefined connection between the amount of plant damage and the intensity of frost stress. On the basis of the results of preliminary experiments we have in this article sought to differentiate between, and quantitatively define, only the magnitude of nonlethal damage and not to mix this up with cases of frost induced lethal disturbances. This is why mean leaf growth figures are recalculated in terms of the number of live plants of each repetition and never in terms of the total number being considered according to the methodology. A precondition is that it is possible in a short period of time to differentiate precisely those individuals which have died as a result of frost.

This question has concerned us previously (Segeta 1963), when we attempted to formulate an approach for the determination of the condition of the plants of a given state of winter crops towards the end of more severe winters. We based this research on data determined gradually for plants cultivated for a longer time (14 to 21 days) under favorable conditions either directly in the arable soil of selected molds or in the water of dishes in such a way that the base of the plants was held above the surface of some gauze or polyethylene foil stretched across the edges of the container. In addition to the magnitude of leaf growth on the plant or stems above the level of the cut, we also took account, after longer cultivation, of the apparent state of the roots and of the development of new roots on the base or the sprouting junction. On the basis of correspondences, we deduced that a live plant generates growth of greater than 2 mm after 3 to 4 days.

The results of the experiments demonstrate the great sensitivity to frost stress of the processes conditioning leaf growth of cut seedlings. We have shown that absolute growths appear within the context of each separate variant of stress in a normal distribution, meaning that the results obtained may be evaluated using the techniques of biometrics. In most experiments we recorded significantly different mean leaf growth for plant variants exposed to frost stresses of various intensities, even in cases when the differences in specific temperatures were very small between them (1.5 to 2.0°C). Inside the refrigeration closets where the boxes were placed with the individual rolls being exposed to partial stresses, the temperature prevailing throughout the entire 24-hour length of each experiment varied very little. Nevertheless, the length of leaf growth of individual plants within each roll differed even in cases when the seed which was used possessed seed science parameters that attested to its maximum quality and minimum variability. It is therefore necessary to criticize the view of Marshall and Kolb (1982) that it is possible to choose genotypes for winter oats of a given resistance on the basis of a visual estimation of frost induced relative depression of the leaf growth of a single plant.

While the length of adaptation at temperatures greater than 0°C does not affect leaf growth on control variants, such plants react to brief hardening at temperatures below the freezing point in accordance with its induction effectiveness. Particularly for hardy genotypes there is a regular appearance of simultaneous stimulative effects from the induction of seedlings at temperatures below 0°C. These are apparent not only from a comparison of the leaf growth of plants of the appropriate control variants, but also of those which were exposed to lesser frosts. They are cultivar specific.

So as to eliminate this effect, we recalculated leaf growth determined for partial stresses as mean values established for corresponding control variants. This eliminated at the same time occasional differences among genotypes and seed of differing origins. Such a conversion is especially necessary in cases where the resistance of different variants is being determined on the basis of the impact of frost of a single intensity. The necessity for comparison with the leaf growth of control plants is noted by Marshal and Kolb (1982) in their statement about the assessment of the effects of a single stress by the visual classification of the leaf growth of every plant into one of four possible categories.

Because in our experiments growth is stopped during hardening at temperatures below 0°C and the freezing is constant throughout the plant, it is not possible to explain the stimulation of subsequent growth in terms of different sensitivities of embryonic and expansive growth or in terms of different temperatures in different parts of the organisms, as Kleinendorst (1975) formulated these in the case of the influence of cold on corn.

The basis for such phenomena is not as yet clear, just as to date there is no explanation for the mechanisms of nonlethal, negative effects of frost of subsequent growth activity. Our earlier experiments (Segeta and Papazisovski 1971a,b;1973) with well-developed and branched plants of winter wheat showed that the repeated spraying of cut basal parts with a mixture of β -indoleacetic and gibberellic acids accelerates leaf growth (milligrams per gram \times s \times h). This was not a matter, however, of plants affected by stress. The cutting of the portions above the surface was to stimulate the total destruction of the photosynthetically active parts of the plant. Naphthylacetic acid demonstrated a similar positive influence (Sarsenbajev 1975).

The role of hormones in growth regulation and after the completion of stress situations is much better demonstrated by the result of many studies which focus especially on the influence of dryness on metabolism and on the level, form, and mutual relationships between endogenous substances regulating growth activity (Barausi, et al 1980). These issues, after all, are connected with the fact that it is precisely the growth processes which display substantially greater stress sensitivity, in conjunction with a change in cell hydration, than other physiological processes (Hsiao, et al 1976).

It is not at present clear whether during the freezing-thawing cycle the occurrence of a simultaneous change in the distribution of water in the protoplast, cells, and foliage, and the resultant slight water deficit, is the cause of the direct damaging of the membrane system of the cells or whether, similar to

the loss of turgor during dry periods, it leads to an increase in the abscisic acid level (Pierce and Raschke 1980). A role may also be played, however, by disruptions in hormone distribution caused by damage to the most sensitive roots.

It may be assumed that the significant dependence, which our experiments have demonstrated, of the extent of nonlethal disturbances appearing as weakened growth activity on the temperature of frost stresses will make possible further research on this theoretically and practically important problem of the mechanism of negative frost influences.

The above-cited dependence and relatively narrow temperature range within which there occurs a clear depression in leaf growth signals the possibility for utilizing the values gained in this way for the derivation of critical stress values. This would be in the sense of a lethal dose (LD_{50}) as commonly used in pharmacology, and would objectively characterize the genetically or inductively conditioned level of resistance of the plant or, more precisely, of the system which regulates the growth processes in the post-stress period. This entire question, with a view as well to the factor of the passage of time and the various conditions prevalent during the cultivation of the plants after the exposure to frost and, by the way, also in terms of the extent of lethal disturbances and reactions of wheat genotypes, will be analyzed in a special paper. Here it is essential to emphasize that the temperature of frosts at which most of the nonlethal disturbances of growth activity occur are much higher than those which cause the death of the great majority of plants.

9276

CSO: 2400/5

PROBLEM OF ENSURING WATER NEEDS IN CSSR DISCUSSED

Prague PLANOVA NE HOSPODARSTVI in Czech No 8, 1983 p 52-60

[Article by Eng Jan Kosa of the State Planning Commission: "Ensuring Water Needs"]

[Text] Water is important as part of our environment and essential for our national economy. As society grows, the demands for water rapidly increase. The largest amounts of water are needed for growing agricultural plants, necessary for the nourishment of the population. For instance, 400-500 liters of water are necessary on the average to grow 1 kg of organic matter (dry matter). Therefore, the steadily growing agricultural production objectively requires increasing amounts of water. This also applies to industrial production, although the water requirements per production unit decrease as a result of rationalized technological processes, such as recirculation and other technological improvements. The reader may find interesting that to produce 1 ton of steel, 20-200 m³ of water are needed in various technological processes; the production of 1 ton of plastic and synthetic materials requires as much as 700-2,500 m³ of water.

The water consumption by the public grows as fast as the water requirements of the national economy. It is not only a question of those 2-3 liters of water which every human being must get daily in the form of beverages and food but also water needed for cooking, washing and other everyday purposes. While 30 years ago the water supply was estimated as approximately 100 liters per person per day, today, water consumption amounts to 300-350 liters per person per day, in some places even more.

These demands must be satisfied from very limited water sources. The total volume of water on earth is estimated to be 1,337 million km³; however, fresh water constitutes less than 3 percent of the total amount, i.e., about 37 million km³. Moreover, fresh water is unevenly distributed both in space and time. Only about 200,000 km³ of water is actually used. In many advanced countries satisfying the growing demand for water requires very costly technological equipment, particularly for providing water to cities and industrial centers. The pollution of fresh water by wastes from residential areas and industry and by chemicals used in agriculture, which endangers especially underground water sources, has serious consequences. Thus, apart from energy, food and raw material crises, we can also speak of a water crisis, evident throughout the world.

Czechoslovakia is not rich in water. Its geographical position--in the heart of Europe, at the watershed of three seas (Baltic, North and Black)--makes the country dependent mostly on precipitation water. With the exception of a part of the Danube river, which forms the southern border with Austria, we do not have large rivers but only upper streams with low, fluctuating flow rates, very sensitive to pollution. All water flows to large European rivers in neighboring countries. As a result of unfavorable natural, particularly hydrological, conditions, underground water sources in Czechoslovakia are limited and very unevenly distributed. The conditions are even worse in Bohemia, because a considerable part of the territory is composed of crystalline rock with very small underground water reserves.

The natural capacity of water sources in Czechoslovakia is determined mostly by the amount of precipitation, which is affected by Czechoslovakia's location at the boundary of oceanic and continental climates. It is obvious that with regard to natural water sources, our situation is not favorable and, therefore, it has recently been given considerable attention.

From 1945 to the end of 1981, the number of citizens receiving drinking water from the public water distribution systems increased from 4.9 to 11 million, i.e., 71.9 percent. As a result of housing development and growing industry and agricultural production, water consumption was rapidly increasing, in 1980 reaching 1.56 billion m³, i.e., four times as much as in 1945. The specific consumption of drinking water increased as well, exceeding 350 liters per person per day. The length of the water pipe network increased about 2.5 times, presently reaching approximately 46,000 km.

Extensive water distribution systems, ranking among the largest in Central Europe and supplying water to Prague, Brno, Bratislava, North Bohemian Lignite Basin, Ostrava and Koice areas, have been built recently. A number of group water mains, covering town districts of Kladno, Melnik, Kutna Hora, Jablonec, southern Bohemia, Plzen, Cheb, Gottwaldov, Jihlava and other areas, have been built in the CSR. Slovakia has completed construction of water supply systems from Hron, Muran, Bodrog, Zahor, Prievidza and Hrinova-Lucenec-Filakova areas as well as others. Faster development of public water works in Slovakia is gradually compensating for the difference in drinking water supply between the two republics (between 1950-1980, the number of people in Slovakia using drinking water from public water mains increased by 34.3 percent, in the CSR by only 22.2 percent).

There are considerable differences at present in public sewage systems among towns and villages of different areas. Although in the period between 1950 and 1980 the number of people using sewage systems increased considerably nationwide, the standard of these facilities lags behind that of the water supply systems. The development of sewage systems was slow, particularly in Slovakia and the Central Bohemia Regions.

Construction of sewage water treatment plants was initiated much later, however, several dozen have been completed by now, including a number of independent sewage networks. At present, about 60 percent of the total amount

of sewage water is being treated. Also, several industrial waste water treatment plants have been completed and put in operation recently, e.g., in Stetl, Zaluží, Vresova, Uzina, Hencovice, Sturovo, Svlt, Myjava and other places.

The problem of river pollution related to the growth of industry and cities arose as early as in the 1930's. In 1945, about 3,000 considerable pollution sources were recorded, however, only 160 water treatment facilities were operated. Before 1970, the number of pollution sources increased to 10,000 and more than 5,000 km of rivers were classified as considerably polluted.

Building over 1,000 new water treatment plants for both sewage and industrial waste water, closing some obsolete factories with high pollution rate (pulp mills and sugar factories) and changes in technology helped to improve the water quality. Penalties have been imposed for breaking legal norms since 1969. The penalization has also contributed to a better situation: the quality of water in Jizera, Berounka, Morava and other rivers has improved as a result.

After World War II, small flow-rate adjusting water structures were built to protect houses and industrial buildings against floods. A more systematic attempt to regulate flow rate in rivers over a large territory was initiated in 1960 in East Slovakia and Moldava lowlands. After the disastrous extensive flood in the Danube River area in 1965, restoration and reinforcement of Danube dams became the main task, aimed at providing protection for Bratislava and the near lowlands. In the CSR, extensive water work concentrated in southern Moravia, where nearly 200,000 hectares of agricultural land was protected.

The problems of water resources in Czechoslovakia are also related to the utilization of water power, controlled by power engineering and water resources authorities. The most extensive construction of hydroelectric power stations in Czechoslovakia took place in 1950-1963, when the largest works were built (on the Vltava river and the dam cascade on the Vah) and the hydroelectric power plants' installed capacity increased from 320 mW to 1,540 mW. The power output steadily grew and today it exceeds 1,740 mW. The most important hydroelectric power plants are Slapy, Lipno, Kamyk, Orlik, Kostolna, Nove Mesto nad Vahom, Hričov-Miksova, Nosice and Liptovská Mara. At present, water works are being built in cooperation with Hungary on the Danube river (Gabcikovo-Nagymaros). After the power station is completed, the total installed capacity of power plants in Czechoslovakia will increase by additional 420 mW.

Apart from the tasks mentioned above, water resources management is taking an increasingly significant part in creating and protecting the environment. Systematic projects for adjusting water conditions include recreation and water sports facilities, fish breeding and the improvement of biological conditions in the country.

Considering the capital assets, the water resources management is one of the largest branches of the national economy. In 1981, the capital assets were Kcs 109.9 billion: Kcs 77.4 billion in the CSR and Kcs 22.5 billion in the SSR [as published]. This branch of the national economy employs scientists, researchers and designers and about 41,000 workers who operate the water service facilities and provide the maintenance and repair of the equipment.

Society invests billions in the development of the area of water resources as can be seen from the table showing investments made in the previous 5-year plan periods (in Kcs billions):

	<u>4th 5-Year Plan</u>	<u>5th 5-Year Plan</u>	<u>6th 5-Year Plan</u>
CSSR - Total	16.8	21.4	26.6
CSR	10.2	14.0	16.6
SSR	6.6	7.4	10.0

The investments made in the development of water resources best show the care the socialist state takes of the future development of society and continuous growth of the people's standard of living. Directions stipulated by the 15th CPCZ Congress have been successfully fulfilled, particularly by increasing the number of private homes supplied with water from public water mains and connected to the sewage network. Water is used more economically, water consumption is about 4 percent lower than was expected at the end of 1980. The 5-year plan's objective for the production of drinking water has been exceeded almost by 5 percent, although the number of workers has been reduced (by 3.8 percent in both branches of the ministry of Forests and Water Resources, by 4.2 percent in National Committee organizations).

However, this success was accompanied by some shortcomings. Organizations supplying construction and engineering did not fulfill their tasks related to the implementation of the intentions for the water resources capital construction, and thus much of the hygienic equipment in water service facilities was put in operation with delay, which did not help to improve the quality of water in rivers. Further, the devastation of forests in certain areas (Krusné Mountains, Jizerski Mountains, Beskydy) negatively affected the water balance: flood hazards increased during rainy seasons and minimum flow rates decreased drastically in dry periods.

The development of water resources as proposed in the Sixth 5-Year Plan included construction of new water reservoirs with a total volume of 178.8 million m³. Before the end of 1980, six reservoirs of a total volume of 172.8 million m³ were put into operation, five of them serving for drinking water supply (Gottwaldov area, the North Bohemian Lignite Basin, Southern and Southeast Bohemia). The Nove Mlyny dam reservoir has been intended to protect the area against floods and to provide water for use in agriculture, and the Kyjice reservoir in the North Bohemian Lignite Basin with a capacity of 4.7 million m³ has been built for the protection of Lignite mines and for water supply for industry.

In Slovakia, the plans called for building reservoirs with a total capacity of 369 million m³, however, only 364 million m³ have been fulfilled because the reservoir at Teply Vrch on Blh has not yet been put into operation.

The construction of drinking water reservoirs continued in both republics. However, in comparison with previous 5-year plan periods, the required increase in the total capacity has been considerably retarded, which may result in insufficient water supply for citizens in the future.

	<u>Fourth</u> <u>5-Year Plan</u>	<u>Fifth</u> <u>5-Year Plan</u>	<u>Sixth</u> <u>5-Year Plan</u>	<u>Seventh</u> <u>5-Year Plan</u>
Total Increase in Reservoir Capacities (in millions m³)				
CSSR	764.5	371.6	536.8	106.9
CSR	454.7	282.8	172.8	39.5
SSR	309.8	88.8	364.0	67.4

Capacity Increase in City Water System Reservoirs

CSSR	180.3	235.5	127.8	76.8
CSR	180.3	204.1	127.8	31.7
SSR	-	31.4	-	45.1

As a result of the rapid increase of the drinking water consumption, particularly in households, the immediately available water supplies are insufficient in many okreses in both republics. The present water shortage amounts to about 2,500 liters per second.

The development of public water and sewage systems resulted in an increased number of private homes connected to public water and sewage systems. This development is illustrated by the following numbers (in percents).

	<u>1970</u>	<u>1975</u>	<u>1980</u>
a) Percentage of People Using Public Water			
CSSR	58.3	63.7	70.3
CSR	65.2	69.1	74.0
SSR	43.5	52.3	62.7
b) Percentage of People Using Sewage Systems			
CSSR	46.9	51.7	57.4
CSR	55.6	60.0	65.4
SSR	27.9	33.9	40.6

Local water service authorities significantly contributed to the construction of public water and sewage systems. The work was performed as part of the so-called "7 Action," financially supported by the Water Resources State Fund.

Poor technical and operational conditions of the existing public water and sewage systems have been causing serious problems for many years. The situation is particularly bad in the CSR, where 40 percent of the equipment shows a high degree of wear and the service life of about 20 percent of the basic equipment expired long ago. Functional unreliability of the systems follows from insufficient financial and other means allotted for maintenance, repair and reconstruction of public water and sewage systems. Consequently, water losses in piping networks are growing and water systems fail very frequently, particularly in large city centers.

Development of Water Losses in Piping Network in Percents

	<u>1975</u>	<u>1980</u>
CSR	19.4	23.3
SSR	15.3	16.8

In the area of anti-pollution water protection, both republics have failed to implement the program for waste water treatment stations. The primary cause is the persistent lack of appreciation of the importance of such facilities by many investors subject to both federal and national ministries or to regional people's committees, and also problems with construction material and technology supplies. Thus, for instance, 103 waste water treatment stations were put into operation in the CSR in 1972, but only 13 were opened in 1980.

In the CSR, the amount of pollution from registered sources has remained unchanged for several years, i.e., 140,000 tons BSK₅* per year, which is permissible pollution corresponding to 12 million population. However, in 1980 pollution significantly increased, amounting to 198,000 tons BSK₅, which is equal to the pollution expected from 14.4 million population. Since 1976, the increase reached 38.7 percent.

In the SSR, the amount of pollution stabilized at 136,000 tons BSK₅ per year. A full 50 percent of the main rivers' length belongs to the third and fourth water quality categories.

Despite the measures adopted by the governments of both republics, the persisting unfavorable conditions of general pollution of rivers by industrial waste have not changed. Temporary exemptions from the legal obligation to treat waste water properly have been granted to about 2,500 applicants from various industrial branches and regional people's committees.

Unrecorded soil pollution constitutes another serious problem. Growing soil pollution is related particularly to the intensification of agricultural production and is increasingly affecting the quality of both underground and surface waters. The Ministry of Agriculture and Food and the Ministry of Forestry and Water Resources elaborated a series of measures to reduce this negative effect.

Despite all preventive measures, the number of dangerous accidents, particularly in the oil industry, continues to grow, causing serious damages to the national economy and often contaminating water sources for long periods of time. From 1975 to 1980, the number of industrial accidents in the CSR increased from 171 to 184 per year, in Slovakia from 37 to 68. The main cause of these accidents is increasingly unreliable equipment and human error.

*The CECA norm for pollution.

The strained balance we have experienced for many years in the area of water resources capital investments, has been further deteriorating during the past few years. In the Fifth 5-Year Plan period, people's committees did not use the appropriated Kcs 2 billion for investments into the area of water resources but used them for other purposes. In the Sixth 5-Year Plan period, the Ministry of Forestry and Water Resources enterprises, people's committee organizations and "self-help" construction spent about Kcs 23 billion, which is Kcs 2.3 billion more than in the previous period; however, Kcs 3 billion appropriated for water resources remained unused, because of insufficient preparation and unsatisfactory realization of constructions, delays and repeatedly reduced investment limits and funds in yearly plans.

Considerable shortcomings still persist in the technological equipment supplies. Unfulfilled plans cause mortification of resources invested into construction and result in delays in putting facilities into operation. The situation is most serious in supplies of switchboards, air pumps and measuring and signalling equipment. It is also necessary to solve the need for chemicals (namely polyelectrolytes) which are not manufactured in Czechoslovakia. The deepening balance strain in the area of water resources capital construction urges consistent and timely realization of special construction projects and securing the most essential materials and complex technological equipment for the planned capital construction.

Insufficient maintenance and repair of the basic equipment results in increased investments into extensive reconstruction of water piping networks and construction of new water resources. The significance of this fact can be better appreciated if we consider the cost of new basic equipment for water service systems: In 1980 it was Kcs 102.4 billion of which Kcs 42.2 was spent on water structures on rivers and Kcs 60.2 billion was spent on public water and sewage systems. At present, about 50 percent of necessary repair work is being performed; however, the amount of actual repair work varies, ranging from 20 to 70 percent in different areas. Therefore, the number of construction and assembly workers' teams employed by the water system authorities will have to increase.

The economic situation in water system management is rather complex. The increasingly deteriorating conditions for finding new water sources, the changes in the structure of subscribers (considerably different prices) but stagnant industrial consumption and other factors unfavorably affect the final economic results in individual areas of water economy. The public water systems presents the following results.

		<u>1975</u>	<u>1980</u>	<u>Index</u> <u>1980/1975</u>
Water Supply Receipts (in millions Kcs)	CSSR	2,019	2,266	112.2
	CSR	1,454	1,533	105.4
	SSR	565	733	127.7
Water Supply Costs (without investment subsidies-- in Kcs millions)	CSSR	1,510	2,146	142.1
	CSR	1,199	1,637	136.5
	SSR	311	509	136.6

		1975	1980	Index 1980/1975
Costs for 1 m ³ of Supplied Water (without investment subsidies)	CSSR	1.28	1.47	-
	CSR	1.43	1.59	-
	SSR	0.91	1.18	-
Price for 1 m ³ of water Supplied to Private Citizens	CSSR	0.60	0.60	-
Average Recovery Price for 1 m ³ of Supplied Water (including industries and others)	CSSR	1.93	2.00	-
	CSR	1.96	2.01	-
	SSR	1.85	2.00	-
Water losses in Pipes (in percents)	CSSR	18.2	21.4	117.6
	CSR	19.4	23.3	120.1
	SSR	15.3	16.8	109.8
Water Consumption in Liters (per person per day in households)	CSSR	139	163	118.3
	CSR	128	153	119.5
	SSR	172	187	103.7

During the Sixth 5-Year Plan period, water supply costs increased 42 percent; however, water supply itself increased only 8 percent. While in 1975 the share of costs (without subsidies) constituted 75 percent of the total receipts, in 1980 the costs rose to 95 percent.

The water supply cost increase is affected primarily by the following factors:

The deteriorating quality of water in rivers resulting in increasing costs of water treatment; it has been estimated that this factor accounts for about a 30 percent increase of the total costs;

growing losses of water in piping networks (17 percent increase during the previous 5-Year plan period);

the price of 1 m³ of water for private homes is Kcs 0.60; however, the actual cost is Kcs 1.47. In 1980, the total loss in water supply for private homes amounted to almost Kcs 600 million and was compensated by a considerably higher price for 1 m³ of water for industry and other areas (Kcs 3.70 per m³).

With the increasing consumption of water in homes, we can expect a more intense pressure for subsidies. Should the cost of maintenance and repair of the basic equipment increase in the coming years--as a consequence of the factors mentioned above--the economic results of water service enterprises will significantly deteriorate, especially if the economic resources remain unchanged.

In the area of sewage systems and water treatment, the development is essentially the same. While in 1980 the receipts fully covered the costs and still yielded about Kcs 90 million profit, in 1980 the loss amounted to Kcs 70 million. In 1980 the average cost of 1 m³ of treated waste water reached Kcs 1.34, however, the citizen's price for the service has been established as Kcs 0.20. The difference of about Kcs 630 million was paid mostly by industry and other areas.

To provide enough good quality water for this and future 5-year plan periods, efforts will have to be directed toward dealing with the following problems:

1) In the area of public water systems, priority will have to be given to securing increasing water supplies to new housing developments and areas with insufficient water sources. Careful water economy will have to be demanded and appropriate measures to this end prepared.

Despite the steady growth of production total volumes, water requirements for industry are expected to remain relatively constant, since more rational use of water in technological processes will result in a lower specific consumption of water per production unit.

In agreement with the intensification intentions, measures should be elaborated for agriculture, ensuring that the growing consumption of water for irrigation is supplied within the limits of planned construction of new irrigation systems. New irrigation systems will be built only in areas with available water sources, i.e., in some selected river areas with an active water economy balance.

According to the plans for nuclear power station construction, power engineering will require increasingly larger supplies of cooling water. On the other hand, cooling water supply will drop in those areas where power stations will be transformed into power and heating plants.

The entire structure of water supply and consumption will change as a result of expected different development in individual groups of most important water subscribers.

2) In order to improve or at least to maintain the present quality of water, necessary measures will have to be elaborated concerning the construction of new and modernization of present city and industrial water treatment plants.

Soon it will be necessary to decide the methods and projects for waste water treatment in the city of Prague so that the construction can begin in the Eighth 5-Year Plan period.

Regional people's committees and industry will, both jointly and individually, invest in local water treatment stations, located primarily at the worst pollution sources.

At the same time, water source protection will have to concentrate also on rationalization measures directed at improving the quality of water in rivers. These measures should stipulate and enforce the principle that no new industrial and agricultural facility or housing development will be built without the necessary equipment for waste water treatment.

3) In agreement with the planned construction of nuclear power plants, the demand for cooling water will increase (Temelin, Mochovce, perhaps northern Moravia) and will have to be satisfied. The construction of the water works in Hnevkovice on the Vltava River (designed to supply industrial water to

Temelin nuclear power plant) and the water distribution system to the Slatinka water works, connected to the nuclear power plant in Mochovec, will be commenced in the Eighth 5-Year Plan period.

4) Water resources management will be further required to make large investments in construction related to coal and uranium mining, particularly in northern Bohemia, Cheb, Beskydy and other areas. Several alternative projects will have to be elaborated, permitting more extensive use of the Elbe-Vltava and Danube waterways for international transportation. Such projects will require an increased number of ships, expanded river ports and reconstructed, modernized and possibly extended present Czechoslovak waterways.

5) Special attention will have to be paid to the use of water power and construction of small hydroelectric power plants. The construction of the Gabčíkovo-Nagymaros water work system on the Danube River will continue in agreement with the resolutions of the 18th session of the Czechoslovak-Hungarian Committee for Economic and R&D Cooperation and Czechoslovak Government Decree No 206/82, i.e., the first unit of the Gabčíkovo hydroelectric power plant is supposed to be put into operation in 1990.

In order to obtain favorable economic results, construction of selected small hydroelectric power plants will require solving all operation-cost-related problems. The power engineering branch will be responsible for the additional number of new small hydroelectric power stations to be built at the present water structures.

Depending on the funds available, the water resources management will be responsible for canalization and other water structures serving to protect agricultural land against floods, particularly in selected production-important areas (the land along the Morava, Odra, Cidlina, Ipel, Slana and other rivers), and for facilitating drainage and irrigation. It will also be responsible for all other adjustments of river banks as necessitated by the construction of buildings and roads in the vicinity of rivers.

6) In the following years, investments into repairs and maintenance of basic equipment and facilities should increase almost twofold. The introduction of automation and providing the necessary technology will also require some attention from the water management organizations. The balance strain in the water resources capital construction will urge early implementation of measures for reconstruction of specialized facilities and providing the most important materials and technological equipment. Further, it will be necessary to manufacture only high-quality products and equipment, including spare parts, which will reduce the water losses in distribution systems and building pipes and plumbing (fitting, sealing, dischargers and other equipment).

The water management organizations should expand their own construction and assembly departments. The present share of repairs, 0.8 percent, is insufficient and must be gradually increased to 1.5 percent of the replacement value of the capital assets. Such increase, however, requires creating suitable conditions at all levels. The higher demands of the plan for public water

and sewage systems will require larger supplies of material and products. All these measures should reduce the water losses to 10-15 percent and also the necessity to build new, costly facilities and distribution systems. This solution should prove much more efficient than new construction.

7) In order to accelerate the delayed construction of new water tanks and to overcome the unfavorable situation in water supply, a number of measures requiring no or only limited investments should be prepared and implemented, which should result in rational water economy and better antipollution protection of water sources.

Reduced water consumption and pollution, accompanied by rationalization measures, should essentially satisfy the water demand even if construction of new water structures and public water system facilities is restricted.

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CSO: 2400/2

CZECHOSLOVAKIA

SUGAR PRODUCTION IN CSSR EVALUATED

Prague PLANOVANE HOSPODARSTVI in Czech No 8, 1983 p 61-73

[Article by Eng Zdenek Dusek, State Planning Commission: "Sugar Production in the CSSR"; passages enclosed in slantlines printed in boldface]

[Text] The 15th and 16th CPCZ Congress called in the directives for economic and social development of the CSSR for devoting greater attention to continued growth of intensity and effectiveness of agricultural production. In spite of the fact that productive capabilities of agriculture kept increasing and the volume of production doubled since 1948, the overall level of the development of agriculture and the food industry still is not commensurate with the possibilities and growing needs of society. The rate of growth in plant production is still lagging. Unused resources remain in cultivation and utilization of harvested bulk fodders, potatoes and sugar beets wherein efforts must be concentrated on improving the yield of sugar per hectare and on cutting down losses in harvesting and in processing.

In assessing the meeting of tasks it must be stated that cultivation of sugar beets and sugar production lags very far behind the overall results achieved by agriculture and the food industry, not only within the CSSR agricultural-food complex, but primarily in comparison with worldwide trends.

The sugar industry is of considerable and specific importance to the history of our national economy, because in addition to the textile industry and coal mining it belongs among its oldest industrial sectors. In 1981 it celebrated its 150th year of existence, 35 of them in socialist Czechoslovakia.

Cultivation of sugar beets and their use in sugar production was tried in Bohemia in 1795, specifically in Zbraslav and later on an experimental basis on some large farms and other sites in Bohemia and Slovakia. Sugar production on a larger scale was introduced in Bohemia in 1910 by J. Fischer in the sugar factory at Zaky near Caslav, where he processed 290 tons of beets with a yield of 5-6 percent of raw sugar. Additional sugar factories were established subsequently. The oldest sugar factory in the CSSR is that of Dobruvce, which was founded in 1831 and is still in operation.

The rapid and considerable development of sugar manufacture between 1850-1870 following abolition of serfdom, introduction of steam heating and steam engine

drive facilitated great advances in chemistry, sugar manufacturing technology and machinery with simultaneously improved care the volume and quality of sugar beets. The number of sugar factories increased in the Austro-Hungarian Empire from 84 in the 1850-1851 season to 256 in the 1872-1873 season and sugar production increased from 3,900 tons to 188,000 tons. It came to exceed domestic consumption and excess sugar became the object of a very busy foreign trade supported by foreign trade incentives. The yield of sugar production from beets increased in this period from 4-5 percent to 8 percent.

Subsequent development of the sugar industry up to the onset of World War I was marked by fluctuating crop yields, increasing domestic sugar consumption, lowering of consumer tax, demand of beet growers for increasing the procurement price of sugar beets and workers' strikes for improved working conditions.

World War I disrupted the cultivation of sugar beets and the sugar industry all over Europe. Sugar production sank to one-half its prewar level and in 1918 it decreased by 60 percent of the 1914-1915 season. After the partition of the Austro-Hungarian empire, 86 percent of the total number of sugar factories with 80 percent of the total processing capacity were on CSR territory. The problem of such overdimensioned sugar production for the relatively small CSR territory and the consequent great dependence of this industry and with it of sugar beet cultivation in general on sugar exports did not become manifested immediately after the war. The war-ravaged economy with generally low supplies, particularly of food and including sugar, was gradually coming to grips with the situation.

After World War I, when sugar beet cultivation and sugar production dropped deeply below normal levels, due to a general shortage of sugar the sugar beet cultivation and the sugar industry began to develop anew. This development progressed so tempestuously that the world's sugar production exceeded consumption and there occurred stockpiling of supplies, drops in prices and the start of a worldwide sugar crisis.

Sugar production in Czechoslovakia reached its maximum in 1924-1926. A total of 2,579,000 tons of refined sugar were produced in the 1924-1925 and 1925-1926 seasons. During the great boom period the Czechoslovak state participated in its exports; its share of participation in the attained profits was 50 percent for 1918-1921. This represented at that time Kcs 3.2 billion, which facilitated stabilization of Czechoslovak currency, procurement abroad and a more rapid transition to a peacetime economy.

The worldwide sugar crisis and collapse of sugar prices led to international negotiations for an agreement and revitalization of the sugar market (Taraf's action of 1927), culminating in the closing of an international sugar convention in 1931 with participation of key world sugar producers, including the CSR. A plan was worked out for consumption of burdensome supplies of sugar, with determination of export quotas and restriction of sugar beet planting. Nevertheless, it became impossible to achieve any substantial increase in sugar prices. Czechoslovak sugar exports dropped very sharply.

/The type distribution of sugar factories/ taken over by the CSR after World War I is presented in the following outline:

Season	Territory	Total number of sugar factories	Total	Of which operational		
				Raw sugar factories	Mixed oper.	Refineries
1918-1919	CSSR	117	175	117	46	12
	CSR	168	167	117	38	12
	SSR	9	8	-	8	-
After World War II						
1945-1946	CSSR	108	96	54	40	2
	CSR	98	94	54	38	2
	SSR	10	2	-	2	-
Current state						
1982-1983	CSSR	85	65	25	40	-
	CSR	55	55	25	30	-
	SSR	10	10	-	10	-

An outline of the development of /sugar exportation/ from Czechoslovakia and its share in total sugar production is presented in the following table (in 1,000 tons):

(1) Kampaňové období	(2) Výroba	(3) Vývoz	(4) % podíl	(5) Vývoz uskutečněn do			
				Evropy	Asie	Afriky	Ameriky
1918/1919	584	142	25,3	141	1	-	-
1923/1924	879	577	65,8	581	15	1	-
1925/1926	1325	948	71,5	917	28	2	1
1928/1929	927	581	62,7	557	11	12	1
1931/1932	714	443	62,0	428	10	8	1
1932/1933	556	245	44,1	237	4	4	-
1933/1934	454	148	32,3	136	3	4	3
1938/1939	558	201	36,2
1945/1946	404	58	14,4	58	.	.	.

KEY: (1) Season
(2) Production
(3) Exports
(4) Share
(5) Exports to
Europe Asia Africa America

World War II once again deeply disrupted the sugar industry worldwide. The cane sugar industry was discontinued on the island of Java and suffered damage in the Philippines, in China and elsewhere. In the sugar beet industry the highest destruction of sugar factories occurred in the USSR, Poland and other European countries. In our country, territorial changes in the so-called Protectorate resulted in the loss of 19 sugar factories, 3 of them in Slovakia. During the war five of them burned down and eight were seriously damaged. Production became limited. The equipment of sugar factories was neither replaced nor adequately maintained. Due to the coupon rationing system sugar consumption dropped substantially. The German occupiers forced

ownership transfers of industrial enterprises for their own benefit. In comparison with the state that prevailed in the 1937-1938 season there occurred decreases in the acreage for planting of sugar beets both through territorial losses and through official decrees ordering increases in acreage for cereals and potatoes. Particularly toward the end of the war the sugar industry became subject to plundering and was deprived of all the reserve materials required for maintaining operation.

After liberation in 1945 the decree of the president of the republic of 24 October 1945 implemented nationalization of sugar factories and refineries with the exception of farmers' joint stock companies, the majority of whose stock was held by 1 January 1945 by sugar beet growers cultivating up to 50 hectares of arable land. These farmers' sugar factories were to be transformed into cooperative enterprises. There occurred a hidden power struggle for position in the sugar industry and interference with the nationalization process throughout the national economy that did not end until February 1948. All sugar factories were nationalized by the act of 28 April 1948.

The war brought about a change in the ratio of beet and cane sugar production. The share of beet sugar in worldwide production dropped from 45 percent in the 1913-1914 season to 20 percent in the 1919-1920 season. /The overall development of sugar production worldwide/ from 1900 up to the present is shown in the following outline:

Kampanový rok (1)	(2) Světová výroba cukru tis. t z toho	(6) Podíl (7) Výroba (8) Podíl ČSSR cukru tržníové- v ČSSR na výrobě cukru světové evropské		tis. t (9)	%	(10)
	(3) celkem	(4) třtinový	(5) řepný			
1900/1901	10 008	4 880	5 338	48,6	787	7,9
1930/1931	24 785	14 171	10 594	57,2	1 002	4,0
1945/1946	17 419	11 834	5 585	68,0	404	2,3
1960/1961	40 898	28 058	21 840	58,2	1 070	1,8
1970/1971	73 028	42 848	30 181	58,7	875	0,9
1975/1976	81 727	49 131	32 598	60,1	750	0,9
1976/1977	87 020	53 878	33 144	61,9	527	0,7
1977/1978	91 668	58 737	35 151	61,7	850	0,9
1978/1979	91 052	55 494	35 558	60,9	815	0,9
1979/1980	87 745	53 844	34 101	61,1	834	1,0
1980/1981	86 460	54 068	32 392	62,5	868	0,8

Data from the Statistical Annual of the Federal Bureau of Statistics, the Retrospective Analysis of the Sugar Industry and F. O. Lichts European Sugar Journal 118/1979 - 1979/80, 120 - 1981 pp 340-344, Licht's second and third estimate of sugar production.

KEY: (1) Season	(7) CSSR sugar production in 1,000 tons
(2) World's sugar production in 1,000 tons of which	(8) CSSR share in sugar production
(3) Total	(9) Worldwide
(4) Cane	(10) European
(5) Beet	
(6) Share of cane sugar	

From the very onset of the sugar industry sugar beets found a serious competitor in sugar cane. It is so because it grows under much more favorable conditions that promote formation of more sugar in its cells than in beets. Cane sugar production expanded after World War II to additional areas, primarily Central and South America, developing countries of Africa and to Southeast Asia. A look at the map shows that the cane sugar belt is located between the 35th degree of northern and southern latitude with the sugar beet belts above and below it.

Significance of Sugar Beet Cultivation and Sugar Production to the National Economy

Sugar beets, even though ranking among the most significant agricultural plants from the viewpoint of the national economy, underwent in all European and extra-European cultivation areas a considerably fluctuating development. This became manifested primarily in the extent of planting areas, yield per hectare, sugar contents, sugar yield from processed sugar beets and the resultant sugar production. The reasons for such fluctuations occurring in individual time periods and countries are many. One of the most important was the price situation on the world's sugar market, closely connected to its economic importance, development of consumption, improvements in utilitarian value and also the extent of cane sugar production and its supply on the market.

A great advantage offered by sugar beets is the /possibility of full utilization of its byproducts, which are extremely valuable as fodder for domestic animals/. From the viewpoint of the sowing process it is a plant which can make best use of its location. As a root crop and a plant with deep roots it requires removal of weeds, deep plowing and soil aeration. This enriches the soil with water and air and leaves in it a rich supply of nutrients. From the viewpoint of the national economy it is one of the best agricultural plants, particularly if we consider for what purposes the sugar and molasses can be used in the domestic industry, in consumption and in agriculture and what can be bought abroad for exported sugar.

Sugar beets are specifically of extraordinary importance for providing fodders from domestic sources. Increases in their cultivation become positively reflected first of all in sugar production. Further, wastes from harvesting, i.e., beet leaves and cuttings, and from sugar production, i.e., exhausted beet pulp, molasses and carbonation scum, promote retroactive development of agricultural production, both plant production and, primarily, animal production. It is not without interest that the sugar beet provides in its byproducts per hectare as many nutrients as are obtained through average yields per hectare of, e.g., ensiling corn in an area of 1.5 hectares and wheat in an area of 1.3 hectares.

Sugar, a pure glycide by its chemical composition, is a product of photosynthesis and does not deplete soil of valuable mineral substances. In sugar, as an /important item of Czechoslovak exports/, we are exporting in addition to the product of photosynthesis only the labor of our farmers and of the sugar industry personnel. It represents approximately one-fifth of the

total value of exports of the agriculture and food sector to nonsocialist countries and shall retain its position also in the future. In value volume it holds top place in the sector's exports and from the viewpoint of resources and exportation possibilities it cannot be replaced by any other export assets for which media of exchange could be readily obtained. Its importance in the national economy will keep on increasing; as an organic substance rich in energy it can contribute to dealing with the constantly increasing demand on energy for a developed and technically advanced society.

From among the relationships of the sugar industry to other industrial branches, in the first place should be emphasized its importance to the Czechoslovak machine building industry. At the time of its origin and development, particularly with frequent changes in technology, the sugar industry was an important and incentive-providing customer of machine building plants, whose origin and development it for all practical purposes precipitated and accelerated by its challenging demands. Machine building plants acquired through frequent installations and overhauls of domestic sugar factories such an amount of experience that their products expediently penetrated foreign markets, where they could successfully compete with machine building plants of other countries.

The sugar industry, whose processing capacity increased during the first 50 years of its existence a hundredfold and its production capacity even more, was able to attain the successes it did thanks to personalities with organizational talents and specialized knowledge. Czechoslovak beet cultivation also underwent an analogous revolution in development in its search for approaches to cultivating a strain of sugar beet that would offer the most favorable properties for cultivation and for processing.

Sugar Beet Sowing Areas

Sugar beet acreage in the CSSR underwent a considerably fluctuating development in individual periods. The largest sown acreage after World War II occurred in 1964 when it amounted to 260,000 hectares. A factor aiding in the achievement of a large acreage for sowing sugar beets was the existing system of directives for assignment of sowing acreages down to the agricultural enterprise level. The cultivation of sugar beets was occurring in many places under conditions which did not guarantee favorable results, whether from the viewpoint of production or the economic result.

Since that time, due to the so-called ineffective sugar exports (its price on the world market dropped to approximately Kcs 1 per kg in prices quoted as "all charges paid"), there occurred a gradual decrease in social interest for comprehensively dealing with the development of sugar beet cultivation. The plan did not even develop the requisite pressure. On the contrary, efforts toward increasing deliveries of molasses to agriculture and the weakening of the Czechoslovak economy during 1967-1969 brought about trends toward:

- limiting sugar beet acreage and thus its cultivation and sugar production,
- cancelling exportation of sugar, or limiting it to the absolute minimum with a transition to using sugar beet as fodder,
- using sugar as fodder and meeting only the needs of the domestic market/.

These trends affected the concepts regarding acreage for sowing sugar beets to the point that in 1970 it decreased to 180,000 hectares. In subsequent years there again occurred areal increments to 209,000 hectares in 1979 and 217,000 hectares in 1982.

The sugar beet is cultivated and industrially processed at the present time in 24 European countries, where sowing acreage has been undergoing expansion over the past 10 years. Differences in comparison to the periods preceding World War I and II are substantial, as can be seen from the given outline of /sowing acreages in Europe and in CSSR/ for the period 1900 through 1982 (in 1,000 hectares):

<u>Season</u>	<u>Europe</u>	<u>CSSR</u>
1900/1901	1,839	-
1914/1915	2,104	-
1918/1919	1,411	182
1938/1939	2,884	153
1945/1946	2,024	150
1955/1956	4,397	211
1976/1977	7,915	214
1981/1982	7,977	217

Data: F. O. Licht, Statistical Annuals of the Federal Bureau of Statistics, Retrospective Analysis of the CSSR Sugar Industry.

Sugar beet sowing acreages of 1918-1919 are currently more than fivefold (index 565). The index for increase in the CSSR from 1918 to the present is 112. A look at the development of sowing acreage in Europe shows that for the period 1976-1981 Western Europe registered an increase (index 108), while Eastern Europe, represented by socialist countries, registered a decrease (index 96.7).

The main sugar beet acreages in the CSR are concentrated in beet cultivation areas with 67 percent, potato growing areas with approximately 7 percent and corn growing areas with approximately 6 percent. In the SSR the largest sugar beet acreages are found in the drier corn growing area with approximately 77 percent, beet cultivation area with approximately 19 percent and potato growing area with not quite 3 percent. Temperature conditions in key areas are on the whole favorable, even though less so than in Western Europe. This becomes manifested primarily during the harvesting period, which is limited in time by the arrival of freezing weather.

Soil water conditions fluctuate in individual years and also partially affect yields per hectare and, with the still practiced agrotechnology, also sugar contents. Negative effects of weather on the development of beet growth in the CSSR are discussed by C. Lubos Schmidt, a researcher of the Research and Development Base of the Sugar Industry, Prague, in his article (LISTY CUKROVARNICKE No 6/82, p 140) in which he evaluates five selected countries (Denmark, France, Italy, Austria and the CSSR) and concludes that the obviously most unfavorable situation is found under CSSR conditions where

weather effects are estimated at 20 percent, in extraordinary years as much as 30 percent.

According to the state of production in the 1980-1981 season, the share of beet sugar in world's production represents approximately 37.5 percent. It shows a mildly decreasing trend even though sugar beet cultivation acreage, particularly in European countries, has been increasing in the meantime. A distinct increase in sowing acreages in industrially advanced countries is aided by modernization of cultivation policies necessitated primarily by reductions in manpower and the latter's transition to industry and, further, by increasing costs of wages for manpower in agriculture. From among these measures, the key role was played by development of a genetically single-sprout sugar beet seed. Its introduction in the 1950's and development of machinery for precision sowing made it possible to cultivate sugar beets without manual labor or its expenditure below 10 hours per hectare.

Modernization of methods for sugar beet cultivation did not progress in all countries at the same rate. Sowing by means of precision sowing machinery and genetically single-sprout seed progressed most rapidly in the countries of the European Economic Community, Austria, Finland, Sweden and Switzerland. Sowing at a final distance of 12.5 to 23 cm was carried out in West European countries in 1977 over 70 to 93 percent of beet acreage, mostly in Holland, Belgium, France and Denmark. The share of genetically single-sprout seed in the CSSR ranged between 1977-1980 around 5 percent. This lag behind development in advanced European countries means that the need for manual labor exceeds 200 hours per hectare, which is 10 times as much as required with the use of genetically single-sprout seed of high quality.

/Development in utilization of various types of sugar beet seed/ in West European countries and the CSSR for the period 1967-1978 is shown in the following outline (in percent of sugar beet acreage):

Countries	1967-1968			1975-1976		
	Multi-sprout	Single-sprout Techn.	Genet.	Multi-sprout	Single-sprout Techn.	Genet.
8 EEC countries	32.0	63.2	4.8	4.1	30.4	65.5
12 West European countries total	30.6	62.9	6.5	3.9	28.9	67.2
CSSR	100.0	-	-	94.0	6.0	-

1977-1978		
Multi-sprout	Single-sprout Techn.	Genet.
2.6	17.0	80.5
2.4	16.1	81.5
70.0	29.0	1.0

The outline points out the very low share of single-sprout strains in sowing of sugar beets in our country. For that reason, e.g., sugar beets were

cultivated without manual labor in 1979 only on 12 percent of acreage (in 1975 it was 9.5 percent). The goal of sowing 50 percent of sugar beet acreage by single-sprout seed was met neither in 1981, nor in 1982, when only 28.2 percent of sowing acreage was sown by it in the CSR. The seed imported in 1981 from capitalist countries in the amount of 136,000 sowing units, i.e., for approximately 79,000 of acreage, failed to be used economically, as only 59,000 hectares were sown by it.

Results of operational experiments confirmed that strain composition and expanded use of the genetically single-sprout sugar beet seed represent the decisive conditions for improving the status quo and achieving a decisive turnaround in cultivation of sugar beet in subsequent 5-year plans.

Sugar Beet Yields per Hectare

Sugar beet yields per hectare in the CSSR show an increasing trend in multiple year averages. However, they show considerable fluctuation in individual years, areas and agricultural enterprises. Yet, if we look at the development of yields per hectare in European countries, the CSSR lags far behind their results, even though in earlier years it belonged among the foremost countries with regard to root and sugar yield per hectare. The data published in the report of the sectoral center for technological and economic information at the Research and Development Base of the Sugar Industry in Prague (No 3/1982, p 203) shows that from among the 24 best growing European countries, 7 of them showed the following /yields per hectare/ during the 1976-1977 - 1981-1982 seasons (in 1,000 hectares):

Average:	Greece	59.36	FRG	46.32
	Switzerland	53.28	France	45.40
	Holland	48.94	Western Europe	42.70
	Italy	48.06	Eastern Europe	22.72
	Austria	47.82		

The CSSR shows for the specified period a yield of 32.38 tons per hectare which puts it in 15th place among 24 countries.

The factors which affect the fluctuation of yields per hectare can be divided into two groups. In the first group are those that act independently of man's will—primarily weather conditions. According to research conducted, the CSSR belongs among East European countries with weather conditions more detrimental than those in West European countries. In so far as they range within long-term averages, they are on the whole favorable. With regard to temperatures during the vegetation period, the fluctuations are not such as to detrimentally affect the growth of sugar beets.

The second group is formed by factors which man can use to affect the growth of sugar beets. This includes the entire field of agrotechnology, starting with soil preparation, through timely sowing, thinning and hoeing, fertilization, treatment against weeds and harmful insects, watering and ending with harvesting during sugar beet ripeness. Research has shown that /the following share in the causes of the hitherto encountered poor yields of root and sugar contained herein per hectare/

weather conditions	20-30 percent
quality of seed	10-20 "
chemical protection	15 "
agrotechnology	20-25 "
nutrition	20 "
harvesting	5 "

Prior to World War I, in an average for the years 1901-1910, the /yield per hectare/ amounted to 27 tons. In subsequent 10- and 5-year averages and the last seasons the development in the CSSR in comparison to some European countries was as follows (in tons per hectare):

Country	Weighted Averages				1970	Seasons		
	1930 1939	1948 1952	1953 1957	1961 1965		1975 1976	1977 1978	1980 1981
Italy	25.5	27.0	29.7	32.6	36.4	44.7	45.9	45.7
France	28.6	27.9	28.3	37.7	46.9	39.6	45.4	46.4
Belgium	32.6	35.9	37.4	40.7	48.9	44.0	55.1	47.2
Holland	37.1	50.3	48.5	42.2	49.0	45.1	45.3	49.6
FRG	-	33.5	35.7	45.4	45.8	43.1	47.1	46.5
Great Britain	22.1	34.4	29.6	36.8	41.6	25.1	31.8	35.1
Yugoslavia	-	-	-	29.4	38.1	39.4	44.5	41.1
USSR	11.3	15.0	15.5	15.7	21.0	18.1	24.8	21.3
Poland	18.1	21.0	18.9	26.1	29.8	30.3	28.8	23.5
CSSR	25.0	23.2	23.0	27.6	31.3	35.1	38.0	32.9

The highest yields prior to World War II occurred in the CSSR in 1936 through 1939, namely 31-33 tons per hectare. After a sharp decrease during the occupation and stagnation in the first postwar years the yields per hectare kept increasing with the exception of several years. In 1961-1972 they ranged from 22.8 tons per hectare (1962) up to 41.7 tons (1968). Low precipitation during 1971-1973 affected them to the point of amounting to 31.3 tons in 1971 and 31.1 in 1973. The planned procurement of sugar beets was met in the Fifth 5-Year Plan to 95.8 percent and in the Sixth 5-Year Plan to only 85.1 percent. Not even the initial years of the Seventh 5-Year Plan proved at all successful. In 1981 the plan for sugar beet procurement was met to 87.8 percent. It managed to be met only in 1982, to 101.2 percent in the CSR and to 102.8 in the SSR, with the plan met at a nationwide rate of 104.5 percent. The yield per hectare envisioned for the period of the Seventh 5-Year Plan for the CSSR was 37.3 tons. The fact that there still are hidden resources for achieving higher production of sugar beets is borne out not only by the record harvests of 1968 and 1974, but particularly by the annual differences between enterprises and areas confirmed by results of the Yampol-Pratejov movement for producing at least 5 tons of sugar per hectare.

The effectiveness of sugar production is affected primarily by sugar contents of the beet and, to a lesser extent, by other qualitative characteristics of the raw material, such as admixtures, alpha-aminonitrogen content, conductometric ash, organic nonsugars and others.

At the period when yields per hectare kept increasing in our country there were simultaneous decreases in sugar content. An analogous development with a certain amount of fluctuation was registered throughout Europe. Of course, from available statistical data it is evident that the yield per hectare achieved in our country failed so far to compensate for the reduction in sugar content which led to stagnation and even decrease in the yield of sugar per hectare. The sugar content achieved in the CSSR between 1920-1930 (determined in sugar factories, not in the field) ranged between 18.5-19.5 percent. The weighted average for 5-year seasonal periods in the CSSR was as follows (in percent):

5-year Period	Average Sugar Content	Highest Sugar Content		Lowest Sugar Content	
	<u>Σ</u>	<u>Year</u>	<u>Σ</u>	<u>Year</u>	<u>Σ</u>
1921/22					
1925/26	18.18	1921	19.80	1922	17.60
1926/27					
1930/31	17.98	1929	19.04	1926	17.46
1931/32					
1935/36	18.60	1933	19.47	1934	18.08
1941/42					
1945/46	17.94	1942	18.75	1944	17.0
1946/47					
1950/51	17.96	1947	18.75	1946	16.92
1961/62					
1965/66	17.05	1965	18.27	1963	15.88
1966/67					
1970/71	14.64	1970	15.02	1966	14.48

Reductions in sugar content continued in the CSSR in subsequent years, in both national republics, as can be seen from the following final data (in percent):

	<u>CSSR</u>	<u>CSR</u>	<u>SSR</u>
5-year average			
1946/47			
1949/50	17.96	18.13	16.93
Season			
1971/72	17.96	18.13	16.93
1975/76	13.70	14.19	12.37
1977/78	14.05	13.96	14.36
1979/80	14.63	14.69	14.42
1980/81	13.75	13.85	13.33
1981/82	13.60	13.79	13.11
1982/83	13.95	14.45	12.60

A decrease in sugar content in comparison to prewar years and the period of 1961 through 1965 by more than 3.5 percent not compensated for by increases in yields per hectare means that /obtaining of sugar calls for processing a substantially larger volume of sugar beets than previously/, as can be seen from the following outline:

Kampaňové období (1)	b - CSR c - SSR	(2) Množství spracov cukrovky tis. t	(3) Cukerná tíšť %	(4) Kampaňová výroba cukru tis. t	(5) Potreba cukrovky na 1 t cukru t
1920/21	b	3181	.	567	5,57
	c	507	.	82	8,13
1931/32 - 1935/36	b	3223	18,50	503	6,41
	c	373	17,76	54	6,70
1946/47 - 1950/51	b	3377	18,13	497	6,77
	c	474	16,95	65	7,24
1966/67 - 1970/71	b	5079	15,15	573	8,89
	c	1859	14,72	175	9,47
1979/80	b	5669	14,69	638	8,69
	c	1824	14,42	190	9,31
1981/82	b	4950	13,85	503	9,64
	c	1882	13,20	177	10,65

- KEY: (1) Season
 (2) Volume of processed sugar beet (in 1,000 tons)
 (3) Sugar content (percent)
 (4) Seasonal sugar production (in 1,000 tons)
 (5) Sugar beets required per 1 ton of sugar (in tons)

From this outline it is obvious that in the Fifth and Sixth 5-year Plans, in comparison to the period 1946-1947 to 1950-1951, production of 1 ton of sugar in the CSR required 34 percent and in the SSR even as much as 48 percent more sugar beets. Sugar content shows two significant chronological slumps that occurred in both republics. The first one occurred on a nationwide scale in 1962, namely from the attained 18.27 percent to 16.21 percent, and the second in 1973 from 15.48 percent to 13.93 percent. The first slump can be explained by a general transition from sowing strains high in sugar content and their total replacement by strains rich in yield that do offer a higher yield per hectare, but their sugar content is smaller by more than 2 percent. In our conditions the strains rich in yield have failed so far to compensate for the loss in sugar content and if we follow the development of acreages and sugar production we can see that, e.g., in comparison with the first postwar years, the sugar beet acreage is the same, but sugar production is lower by 35-45 percent.

The reasons for the second slump can be attributed in general to a deteriorated level of care for sugar beets and also to experimentation with the newly developed strain Slovmona, which in its initial stage called for high amounts of phosphorus. Introduction of strains rich in yield and general increases in yields per hectare worldwide make it possible to increase the yield of sugar per hectare even with a simultaneous decrease in sugar content. Of course, Czechoslovak results show that losses in sugar content have not been compensated for by far, which means that there is a need for maintaining large areas, and that processing involves beets with low sugar content, which resemble fodder beets more than sugar beets. At this occasion let us recall that prior to World War II the Czechoslovak norm stipulated that beets containing less than 15 percent sugar would not be compensated for in procurement as sugar beets, but as fodder beets. Under the given

situation this translates into maintaining operation in 65 sugar factories highly demanding on energy and manpower. This involves handling large volumes of substances, consumption of water and of fuels is high and a great amount of transportation units are reserved for this exclusive use.

The average sugar yield per hectare in relation to the six leading European countries amounts to 51.7 percent. The attained results rank the CSSR in 9th place in sowing acreage, in 8th place in the volume of sugar beets processed, in 15th place in root yield, in 20th place in yield efficiency and in 17th place in the yield of refined sugar per hectare in Europe among the monitored 24 beet-cultivating countries. The results obtained in long-term cultivation of sugar beets and in sugar production are unsatisfactory and do not correspond to our agroecological and weather conditions. Over the past 12 years, i.e., from the 1971-1972 to the 1982-1983 season, the debt in sugar production amounts to approximately 1,480,000 tons. It is shared in by approximately 72 percent through unproduced and unprocured sugar beets and by 28 percent through lower sugar content of processed sugar beets than was envisioned by the state plan. At the same time it shall be emphasized that the planned quotas were unrealistic because, as in prewar years just as after World War II, substantially more sugar beets were produced from identical acreage with higher sugar content than in the Fifth, Sixth and the past 2 years of the Seventh 5-Year Plans.

The differences between the CSSR and five countries with the highest results in /sugar yield efficiency per hectare/ are shown by the following data representing averages for the period 1975-1976 to 1980-1981:

<u>Country</u>	<u>Sugar yield efficiency in raw sugar value (Z)</u>	<u>Country</u>	<u>Yield per hectare in tons per raw sugar value</u>
Austria	17.72	Austria	8.49
France	16.65	Switzerland	7.55
Holland	15.25	Belgium	7.38
FRG	15.05	France	7.20
Switzerland	15.14	Holland	7.18
Denmark	14.91	FRG	6.80
CSSR	11.61	CSSR	3.84

Failure to meet the planned quotas in sugar beet cultivation, sugar content and sugar production resulted in very serious societal consequences for the national economy. From 1971 to 1982 inclusively the deficit against the plan amounts to approximately 1,480,000 tons of sugar in refined value. Under the assumption that this amount would have been exported, its value--computed in average actual prices in individual years--amounts to almost Kcs 6 billion in "all charges paid" prices.

Processing Capacity and the State of Fixed Assets

In the 1979-1980 season in the CSSR there operated a total of 69 sugar factories from a total number of 70, 10 of them in Slovakia, and in the 1982-1983 season only 65, 10 of them in Slovakia. Three sugar factories were put

out of operation due to high wear and tear and obsolescence. The situation in the others in terms of wear and tear and obsolescence is also very poor. It ranges between 85-90 percent, particularly in the case of boiler units. The situation is much graver in the CSR, where out of the total number of 55 sugar factories 51 were built in the last century. Between 1970-1975 three new sugar factories with a capacity of 4,000 tons of beets per 24 hours were built, representing the largest of their kind in the CSSR (Hrochuv Tynec, Hrusovany on Jevišovka and in Slovakia Dunajská Streda).

The current processing capacity of Czechoslovak sugar factories is approximately 89,200 tons of beets per 24 hours, of which about 20,200 tons per 24 hours accrues to Slovakia. This amounts to an average of 1,370 tons per 24 hours per sugar factory, which in comparison with neighboring countries is the lowest sugar factory processing capacity in Europe. Length of the season ranges between 70 to 120 days, whereby 70-80 days would represent an optimum. A long season and storing of a large amount of sugar beets for an extended period results in high sugar losses in storage. Advanced beet growing countries organize harvesting and processing of sugar beets so that they almost coincide in time and synchronization between deliveries from fields, and processing makes it possible for the sugar factories not to form large stockpiles of beets.

Obsolescent machinery inventory and a general state of backwardness pose /extraordinarily high demands on acquisition of manpower during the season/. The current situation is such that in addition to the approximately 10,000 steady employees some 26,000 workers are recruited every year for the season. While all the beet growing countries strive for maximum modernization of operations by automation, making it possible to keep down the numbers of seasonal workers, in the CSSR the situation is diametrically opposite. Labor productivity in comparison with other countries is seven times lower. For example, West German sugar companies show an almost negligible difference between seasonal and steady employees. The modern sugar factory of Regensburg (FRG) with a capacity of 9,000 tons per 24 hours has during full seasonal operation the same number of personnel as a Czechoslovak raw sugar mill with a capacity of 1,110 tons per 24 hours.

The high material and financial costs of restoration and modernization of the industry and the long time for return on investments caused the long-term concepts worked out for the industry not to be met.

Analysis of Causes of Stagnation of the Beet and Sugar Industry in CSSR in Recent Times

From the preceding chapters it is obvious that sugar beet and sugar production in our country has been strongly stagnating over the past several years and in comparison with worldwide developments it has even been strongly lagging behind. This fact can best be ascertained from the following outline showing the development in /sugar production per hectare/:

	(1) Měrná jednotka	(2) Rok		(3) Roční průměr		
		1948	1958	5. SLP	6. SLP	7. SLP
(4) Plocha cukrovky	tis. ha	174	231	200	215	215
(5) Nákup cukrovky	tis. t	3812	8401	6880	7083	7380
(6) Nákup na 1 ha	t	22,0	28,2	34,4	33,0	34,2
(7) Obsah cukru	%	18,18	18,31	14,80	14,27	15,08
(8) Výroba cukru	tis. t	588,9	848,4	725,4	747,8	888,8
(9) Výroba cukru s 1 ha	t	3,27	3,68	3,63	3,48	4,13

- KEY: (1) Measuring unit
 (2) Year
 (3) Annual average 5th, 6th, 7th 5-Year Plan
 (4) Sugar beet acreage (1,000 hectares)
 (5) Sugar beet procurement (1,000 tons)
 (6) Procurement per hectare (tons)
 (7) Sugar contents (percent)
 (8) Sugar production (1,000 tons)
 (9) Sugar production per hectare (tons)

This state contrasts with the results obtained by economically advanced countries, which in approximately identical climatic and soil conditions show disproportionately more favorable results. For example, in neighboring Austria sugar production per hectare ranges up to 6-7 tons in refined sugar value. Such a substantial difference in results has several causes. One of the main causes is that sugar beet cultivation offers little advantage. Another shortcoming is the use of poorly productive sugar beet seed with a low share of single-sprout strains used abroad. Basic soil preparation, particularly deep plowing in autumn and soil fertilization by adequate doses of stable manure and nitrogen, are not carried out in time and in the desirable quality.

Sowing machines that are available in agricultural enterprises are unsuitable, because they do not facilitate quality and precision sowing of single-sprout seed in optimal final spacing that makes it possible to apply mass production technology with a minimum of manual labor. There is a chronic shortage of implements for cultivation and a shortage of effective herbicides against weeds. Also, scientific management of sugar beet nutrition, an advanced system of soil fertilization in terms of optimum composition of fertilizers, their dosage and application, are not used at the desirable level. The results achieved in production and procurement of sugar beets are negatively affected by the low technical level of harvesting technology. Losses in harvesting range in our country between 20 and 30 percent. A reduction by 5 percent, which is realistic, represents for the total acreage an increase in sugar beet production of 400,000 tons, i.e., an additional 40,000 to 50,000 tons of sugar. Full implementation of a system of incentives for harvesting crews and for personnel responsible for organization and management of harvesting is still lacking.

A decisive turnabout in sugar beet and sugar production and its effectiveness can be achieved only by dealing with the entire set of measures in the area of logistical backup for sugar beets and sugar production as well as economic instruments. That would call for:

- /1. providing productive, genetically single-sprout sugar beet seed of high biological value; supplying for this purpose high-performance machinery for precision sowing of sugar beet seed;
2. providing an adequate amount and economic use of herbicides and industrial fertilizers--providing for production of stable manure for thorough fertilization of sugar beet acreage;
3. improving the technical level of harvesting technology--providing for production of weeding machines and equipment for soil aeration;
4. devising a system of incentives./

The idea of an inevitable need for a decisive turnabout toward improving the effectiveness of the Czechoslovak national economy was stipulated with full urgency at the 16th CPCZ Congress which simultaneously pointed out the breadth and depth of the entire problem, its economic, but also political and ideological dimension. It emphasized that it must involve a "requisite turnabout in implementation of the long-term strategic policy oriented toward improving the efficiency of production, economy and quality of all labor, more effective and realistic use of production and investment capital, application of science and research in practice."

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CSO: 2400/1

PRESSURE TO EXPAND ROBOTIZATION INCREASING

Prague HOSPODARSKE NOVINY in Slovak 5 Aug 83 pp 1, 6

/Article by Eng Pavol Bahyl, CSSR Ministry of General Engineering: "Robotization Becomes More Urgent"/

/Text/ The guidelines for economic and social development of Czechoslovakia during 1981-1985 which were approved at the 16th CPCZ Congress call for robotization of production processes in our economy. In addition to intensifying production processes and increasing labor productivity, industrial robots and manipulators make possible certain kinds of production for which human precision and reliability are insufficient, create the conditions for better utilization of fixed capital, solve social problems stemming from insufficient manpower, and eliminate dangerous, heavy, unhealthful and monotonous work. In addition, they increase the effectiveness of export of production equipment by creating the possibility of exporting fully automated manufacturing sets.

The Czechoslovak Concept

The Czechoslovak concept for the development of industrial robots and manipulators is based on the fact that Czechoslovakia has a developed mechanical engineering industry. But 70 percent of it is one-off or small-series production, whose automation depends in practice on flexibly programmable, rapidly adjustable production and handling equipment.

The factors which affect the development of robotization are insufficient manpower (resulting among other things from the fact that large numbers of workers are tied up in materials handling during and between operations), the low level of utilization of production equipment and insufficient finalization of production systems. Our approach is based on the principles of a centrally controlled program with maximum use of inhouse production, development and research capacities and of a domestically produced components base, with a major orientation toward international scientific and technical cooperation and toward specialization and cooperation with CEMA countries. This principle differs in part from the approaches taken by certain other CEMA members. For example, in the GDR, tasks are carried out in decentralized fashion at the combine level, while in Bulgaria the production sector is concentrated and operates on licenses. The USSR's robotization program is especially extensive and is centrally managed in accordance with a comprehensive program that has been worked out for its development.

During the Seventh 5-Year Plan, the approaches of the CEMA members will be integrated into the robotization program and a joint, coordinated approach will be developed in development, research, cooperation and production specialization. The CEMA Executive Committee has adopted the "Specific Measures for Developing Automated Manipulators with Program Control for Various Sectors of the National Economy and for Organizing Their Specialized and Cooperative Program Based on Standardized Assemblies and Components."

These measures were included in the "Joint Cooperation Program," which is an inseparable part of the guideline agreement on multilateral cooperation in the development and organization of specialized and cooperative production of industrial robots which was prepared by the CEMA Committee for Scientific and Technical Cooperation and was signed by heads of government at the 36th CEMA session at Budapest in June 1982. The Council of Chief Designers for Industrial Robot Technology, which was created by the CEMA Committee for Scientific and Technical Cooperation, was entrusted with procedural management, and with developing the results of requirements studies.

The point of departure for consistent standardization will be the implementation of the "Uniform Concept for Technical Development of Robot Technology" developed by the Committee for Scientific and Technical Cooperation. It is based on the principle of modularity, which allows the necessary variability in the design of robots and their optimal adaptation to their technical missions and intended economic contributions.

The level of the industrial robots and manipulators developed and produced in Czechoslovakia is comparable to that of equivalents produced abroad. Czechoslovak industrial robots and manipulators are almost wholly based on compatible-design components produced here and in the other CEMA countries. This fact has been creating certain difficulties with reliability.

Based on the results of research and development of industrial robots and manipulators in Czechoslovakia, during the Seventh 5-Year Plan series production of industrial robots and manipulators based on Czechoslovak-produced components is to be begun, and a minimum of 3,500 industrial robots and manipulators are to be produced. At least 3,000 robots and manipulators are to be incorporated into production at this time and 1,500 automated manufacturing workplaces are to be equipped with robots and manipulators. The use of robots and manipulators is expected to save 5,500 workers in the production sector.

During this 5-year plan the main groundwork is to be laid for intensive development of robotization during the Eighth 5-Year Plan, aimed at incorporation of at least 13,000 to 15,000 robots and manipulators by 1990. The main foci of technical development will be modernization of already-developed robots and manipulators so as to raise their technical level, reliability, quality, service and adaptability, particularly in keeping with the development of microelectronics and the components and assemblies base. This will be based on modular design, using standard modules and assemblies as envisioned in the concept for development of robotization in the CEMA member countries. Sensor subsystems will be developed to increase the artificial intelligence of industrial robots and flexible production clusters, and integration between process equipment and robots will

be increased. This will lead to the development and testing of robotized manufacturing complexes with a high degree of integration of production equipment, handling, management and organization of labor, including improvement of the characteristics and reliability of components and assemblies.

The Central Organs' Approach

Coordinated development of robotization in Czechoslovakia began during the Sixth 5-Year Plan with research and development under the state plan for development of science and technology. Section 470, "Industrial Robots and Manipulators," was included among state priority projects for the Seventh 5-Year Plan period as State Special Program 07. This proposal was worked out in 1981 by the development of the document on "The Concept of Development of Industrial Robot and Manipulator Production in Czechoslovakia," which was discussed by the CSSR Government Presidium in December 1981 and with regard to which decree No 211/1981 was adopted. This decree called upon the FMVS /Federal Ministry of General Engineering/, FMHTS /Federal Ministry of Metallurgy and Heavy Engineering/ and FMEP /Federal Ministry of the Electrotechnical Industry/ to produce 3,545 robots and manipulators during the Seventh 5-Year Plan period and also assigned the task of solving problems already encountered. In addition it required that the program for production and installation of this equipment in 1983-1985 be revised and expanded.

In performance of this assignment, in April 1982 we presented a report on the state of efforts to revise the program. The CSSR Government Presidium adopted Decree No 94/1982 with regard to it, stating that the limiting factor on further development continues to be that of providing compatible-design components and that it remains necessary to improve the program for incorporation of industrial robots and manipulators. In addition it called for the revision of the Czechoslovak concept of development and production of robots and manipulators in connection with preparation of a unified concept of technical development of robotics for the CEMA member states, including focused and specialized production of components and assemblies. This concept has now been prepared for discussion by the CSSR Government Presidium.

The FMVS developed Seventh 5-Year Plan assignments for the individual VILJ's in its plan breakdown of 3 June 1982. The production assignments of the individual VILJ's are: ZTS /Heavy Engineering Plants/ Martin, 251 units; CAZ /Czechoslovak Automotive Works/ Prague, 652 units; Strojarmat Bratislava, 36 units; TST /Engineering Machinery Plants/ Prague, 574 units; and VUKOV /Research Institute of the Metallurgical Industry/ Presov, 279 units.

The quantitative dimensions of the development of robots and manipulators in Czechoslovakia for the Seventh 5-Year Plan were definitively established by CSSR Government Presidium Decree No 211 of 10 December 1981, entitled "Concept of Development of Industrial Robots and Manipulators." This decree called upon the FMVS to produce 1,560 robots and manipulators with a value of Kcs 651 million, the FMHTS to produce 1,350 units worth Kcs 210 million, and the FMEP to produce 647 units worth Kcs 306 million. The entire program calls for an output of 3,558 robots and manipulators worth about Kcs 1.2 billion. A frequent consequence of the slow progress in robotization has turned out to be relatively high

expenditures on incorporating this equipment. CSSR Government Presidium Decree No 68 of 21 April 1983 adopted systematic measures proposed by FMS /Federal Ministry of Finance/ with the cooperation of FCU /expansion unknown/ and the mechanical engineering ministries. These systematic measures require state support which will total several hundred million korunas in the next 5-year plan. This support will be temporary, lasting until the economic effects from the use of robots and manipulators and decreases in the cost of their production begin to emerge. The measures can be described as follows.

--Several stimulation principles involving a set of financial and economic instruments, either existing or to be prepared in connection with the experiment in scientific and technical development, will be used: for example, the principle, stated in the Set of Measures, that the producers and purchasers of this equipment must be compensated for all expenses exceeding planned expenses for the preparation and testing of products and incorporation of robots and manipulators from the VHIJ or ministry reserve fund and that they should use bank credit on more favorable terms for the startup of production and putting robots into operation.

--A system of dual prices for producers and purchasers will be introduced. The difference will be subsidized from the state budget, from the ministry of VHIJ reserve fund or from the VHIJ technical development fund, without the agreement of the Ministry of Finance. Higher prices for the supplier (in accordance with the planned full value added for the first year of production, including the prescribed profit ratio) will apply for series-produced and supplier-furnished products. Over the course of a maximum of 4 years they will be decreased to the basic purchaser price level. The prices for the purchaser are set at a level corresponding to the expenditures for mastering production, with reference to foreign price relations and the prices of possible imports.

--State subsidies will be provided under certain conditions, which will include efficiency in substitution for manpower. A saving of two workers will be required, and recovery of investments will be over the lifetime of the robot, which according to world experience is a maximum of 8 years. In accordance with SCP /State Special Program/ 07, 3,000 robots are to be produced and 5,500 workers are to be saved; hence the 2-worker requirement. In addition, special-purpose noninvestment subsidies from the state budget to cover increased expenses associated with the incorporation of new technologies are being introduced. They will be conditional on substantiability of the expenditures and their effectiveness.

Other measures will facilitate financing for the acquisition of robots and manipulators, including efficiency-improvement credit (four percent, maximum 5 years) and accelerated writeoffs. Finally, the central organs may set conditions for user organizations which allow annual bonuses for top operating management and awards and productivity bonuses for workers who incorporate robots.

Program Fulfillment

We may state that the decrees thus far adopted by the CSSR Government and its presidium have helped to increase the ministries' vigor in carrying out Special Program 07. But the decrees are being fulfilled behind schedule, and more

thoroughly in some sectors than in others, leading to major problems in the ultimate achievement of the objectives of the program.

Research tasks involving the development of robots and manipulators and their application in critical mechanical engineering technologies and the development of auxiliary equipment for automated manufacturing work places and of critical components for the production of robots and manipulators are being fulfilled materially and on time with an effort to speed up the development stage for key equipment. Currently, 12 types of industrial robots and manipulators and special-purpose and manual manipulators have been put into series production or prepared for it. By the end of the Seventh 5-Year Plan the development of an additional nine types of industrial robots and manipulators will have been completed, including three industrial robots with adaptive capabilities.

In addition to centralized research and development, certain special-purpose industrial manipulators have been developed as part of sectorial R&D assignments, primarily in association with the development of process equipment for welding in the ZTS Martin VÚJ, for machining and forming in the TST Prague VÚJ, and in the electrical engineering industry and certain nonmechanical engineering sectors. It has been found that future research and development work must focus on improving the technical and use characteristics of robots and manipulators and their reliability, putting them into use in exposed environments and in installation processes, increasing the economic effectiveness of their incorporation, and decreasing their prices. An extremely important question in the further development of robots and manipulators is that of developing and producing key compatible-design components and assemblies, particularly in the areas of automation and regulating equipment, drives and transmissions. Czechoslovakia's current components and assemblies base does not meet the requirements of robotization. In some cases the required technical level has not yet been attained. Additional development organizations of the relevant types must participate in developing key compatible components and assemblies.

The robots and manipulators developed thus far have been intended primarily for machinery production technology. In view of the expected widespread application of robots, it is essential to orient additional, even nonmechanical-engineering, production capabilities, toward support of the robotization program. We cannot expect VUKOV Presov to carry out the research and development work for all of the technologies used in Czechoslovakia. There is a good deal of work to be done by all technically oriented research institutes in order greatly to intensify their degree of automation. We expect benefits in this area from international scientific and technical cooperation with the CEMA countries. A specific result of our previous cooperation with the Soviet Union is three jointly developed types of robots and manipulators: the UM 160 universal manipulator with a load capacity of 160 kg, the AM 5 automatic manipulator with a capacity of 5 kg, and the MTL 10 pressure casting manipulator with a capacity of 10 kg.

Since 1981, more advanced forms of scientific and technical cooperation and joint design with the Soviet Union have been instituted. A draft agreement to set up a joint Czechoslovak-Soviet planning and design organization has been prepared; in the first stages, this organization will support the creation of robotized manufacturing complexes for machining of rotating components.

Support of Production

In organizing the production base, we proceeded in terms of the manufacturing categories to which the producers belonged so that in the future they could support the robotization of manufacturing complexes. For example, the production of robots and manipulators for welding was located in the ZTS Martin VILJ and the High-Voltage Electrical Engineering Plants Prague VILJ, that for surface finishing at Strojmal Bratislava, that for machining and forming in TST Prague, that for pressure casting in Čepova Brno and so on.

As of 1981, serial production of robots and manipulators had been begun in enterprises of ZTS Detva, ZTS Koice, BAZ /Bratislava Automotive Works/ Bratislava, CZM /Czech Motorcycle Works/ Strakonice and the concern enterprises of the TST Prague, ZPA /Machinery and Automation Plants/ Presov, ZEZ /Electrical Machinery Plants/ Prague, Vihorlat Snina, and Skoda Ostrov nad Ohri VILJ's. Prototype series are being produced at VUKOV Presov, VUMA /Research Institute of Mechanization and Automatization/ Nove Mesto nad Vahom, and the Institute for Development of Consumer Mechanical Products in Piestany. TOS Rakovník, ITN Trenčín and SAM /expansion unknown/ Myjava are in readiness for series production. Production of other special-purpose manipulators has been spread among various producers.

A precondition for accomplishment of production assignments in the Seventh 5-Year Plan period is the gradual upgrading of the production base in the key producer organizations by reconstructing and modernizing it. For these purposes, CSSR Government Decree No 151 provides for up to Kcs 2 million in investment commitments in construction and Kcs 4 million for outside-of-budget construction and equipment for the Seventh 5-Year Plan, broken down as follows: Kcs 280 million for PMVS, Kcs 69 million for PMITS, and Kcs 81.2 million for PMEP. This does not mean that the VILJ's cannot invest considerably more in this area.

It must be noted that production capacities cannot be modernized and reconstructed to the planned extent. In 1981 and 1982 only Kcs 17.8 million of allocated funds were actually utilized for this purpose by the PMVS. We cannot accept the argument of the VILJ's, which would make full use of budgeted limits contingent on creation of budgetary allocations in their development funds. For development of the production base, CSSR Government Decree No 151 plans on implementation of four investment projects in the construction area worth more than Kcs 2 million scheduled to be begun during the Seventh 5-Year Plan, with total budgeted expenditures of Kcs 11 million. They are: construction of capacities in the ZTS Detva and ZPA Dukla Presov n. p.'s /national enterprises/, construction of capacities for peripherals production in the Strojmal Medzev n. p., and upgrading of the production base at VUKOV Presov.

In 1981 the plan assignments for production of robots and manipulators were fully completed. Compared with a planned output of 292 units worth Kcs 43.3 million, actual output was 368 units worth Kcs 51.8 million. In 1982 the planned output was 421 robots and manipulators worth Kcs 84.5 million; a total of 615 units worth Kcs 65.6 million were produced. The planned selection was not achieved, primarily owing to problems in producing the selection of standard robots and manipulators. The plan assignments were not completed by ZPA Presov,

Vihorlat Snina, and ZTS Kosice. There was considerable above-plan production of special-purpose and manual manipulators. In 1983 an output of 750 robots and manipulators is expected, compared with a plan target of 592 units, but there are still conflicts in the provision of the full selection of standard robots and manipulators.

In terms of value, the entire plan was overfulfilled. But there is underfulfillment in the production of standard robots and manipulators and overfulfillment in the production of special-purpose and manual manipulators. This circumstance results from requirements of users, lack of investment support, users' postponement of deadlines for planned investment projects, and slippage in starting up series production as a result of behind-schedule development of the production base.

The faster pace of production of special-purpose manipulators results from their development and production with enterprises' technical development resources, and from the specific requirements of the individual technologies. The relevant VU's must achieve the required expansion of capacities within the limits of allocated special-purpose investment funds in order for the assigned production tasks to be fulfilled. In my department I have in mind accelerating the startup of production in the enterprises of TST in Trenčin and Rakovnia, of ZTS in Kosice, of CAZ in Bratislava, and of Strojarmat in Myjava.

The key problems in 1981 and 1982 involved deliveries of DC electric drive units from MEZ /Moravian-Silesian Electrical Appliances Plant/ in Brno and the related delivery of control systems from ZPA Presov. In 1983 there continue to be problems with on-schedule deliveries of electric drive equipment from MEZ Brno, and the central control units of selected SMEP 50/10 /Unified Small Computer Series/ systems from ZVT /Computer Technology Plants/ Banská Bystrica, which has had a negative effect on the production and delivery of control systems by ZPA Presov. The key components include control systems; the quality of robots is critically dependent on the central control units from Tesla Kolin. Thus far it has not been possible to develop a uniform concept of microprocessor-based control systems for production equipment and robots and manipulators. This fact has a negative effect on the economic characteristics of installed automated manufacturing workplaces incorporating robots and manipulators, as well as all mechanical engineering products.

Installation and Utilization

The view is gaining currency in some sectors that it is the duty of PMVS as the manager of State Special Program 07 to plan a standard robotized workplace, to produce the required peripherals, and to provide agreed-upon turnkey automated manufacturing workplaces. Since robotization is a cross-cutting program and incorporation is affected by the specific conditions of each user, this view is currently unrealistic. Every ministry or VU must build its own planning and design capacities and produce special peripherals. The production organizations of PMVS, or of PMTS or PMEP, produce standard robots, manipulators, and modules and components for the construction of special-purpose manipulators according to prescribed programs. Thus the only way to success involves a good training of personnel and the freeing up of adequate numbers of them for robotization and electronicization in the user enterprises.

The application area is critical for fulfillment of the assignments of the state special program. The installation of robots and manipulators currently is associated primarily with efficiency-improvement programs in existing production processes. In 1981-1983 it did not become possible to transplant this advanced equipment via new planning and investment projects. Accordingly, the incorporation of robots and manipulators currently is being done singly, with a low level of automation and thus involves rather simple equipment. This trend must be fundamentally changed over to group introduction into robotized manufacturing complexes and complex production clusters, which are the only types that can give the expected economic effect. Thus far the VUZ's have not been using goal-oriented development programs and have lacked thorough preparation, incorporated into their schedules. The state special program calls for the incorporation of 1,505 automated manufacturing workplaces and 3,000 robots and manipulators by the end of 1985; to date, 463 automated manufacturing workplaces and a total of 1,093 robots and manipulators have been introduced. Thus in 1984 and 1985 it will be necessary to introduce 1,082 automated workplaces and 1,907 robots and manipulators. Is this realistic?

Reuse of planning documentation is minimal. The center of gravity of equipment incorporation is coming to rest in 1985. Of 1,062 automated manufacturing workplaces which are to be installed by the end of the Seventh 5-Year Plan, more than 40 percent have not yet been fully planned for. The assignment of installing a minimum of 3,000 industrial robots and manipulators during the Seventh 5-Year Plan is realistic. To accomplish the task of installing 1,505 automated manufacturing workplaces by the end of the Seventh 5-Year Plan, it will be necessary for all levels of management to make maximum efforts and take extraordinary measures.

To fulfill individual assignments in incorporation of automated manufacturing workplaces during the Seventh 5-Year Plan, the individual ministries will have to do the following:

- provide investments for technically and economically realistic plans for incorporating automated manufacturing workplaces with robots and manipulators, using measures as specified in the USSR Government Presidium Decree No 67/1983;

- quickly finish working out the program for putting into operation automated manufacturing workplaces using robots and manipulators, refine the programs already worked out in all ministries on a year-by-year basis, and hold expert commission evaluations of installation programs and their agreement with planned capacities, investment plans and numbers of deliveries of machines and manipulator equipment;

- provide adequate planning capacities for planning automated manufacturing workplaces using robots and manipulators and coordinate them through the RAO TECH association;

- provide good service. Servicing of robots, manipulators, control systems is the exclusive activity of the producers of this equipment. It will be necessary to build service capacities, to expand manpower and provide material and equipment supply. Servicing of complete automated manufacturing workplaces is organized

by the ROBOTECH association. Servicing will be performed by the facilities of VUKOV Presov to be built in Prague, Bratislava, Brno and Liberec, to which the producers and planning organizations will assign workers within the context of their work plans, as agreed upon;

- deliver the requisite quantities of components for automated manufacturing workplaces, i.e., production machinery, robots, manipulators and peripherals, on schedule through the relevant balancing organs;

- train 500 servicing and maintenance workers a year for automated manufacturing workplaces and 600 designers a year in courses organized by the Institute of Automation Equipment at VUKOV Presov, in postgraduate studies at advanced schools and in specialized courses in the CSVTB /Czechoslovak Scientific and Technological Society/ Houses of Technology.

We must bear in mind that the process of robotization is a regular social process. In our developed socialist society it has a great deal of support from the operating and political organs. Its implementation requires initiative and a purposeful and coordinate approach by all responsible management personnel.

WZD

CSVT 2/80/617

COORDINATION OF RESOURCES, PRODUCTION WITH ANNUAL PLAN

East Berlin GESETZBLATT DER DEUTSCHEN DEMOKRATISCHEN REPUBLIK in German
Part 1 No 15, 16 Jun 83 pp 161-164

[Official text of "Implementing Regulation to the Decree of Balancing Materials, Equipment and Consumer Goods of 2 June 1983," signed by Schuerer, chairman, State Planning Commission. For a translation of the Decree, see JPRS 75995 of 7 Jul 80, No 2021 of this series.]

[Text] To provide further instructions on the balancing of materials, equipment and consumer goods, the following decisions have been made in accordance with paragraph 37 of the Decree dated 15 November 1979 on Balancing Materials, Equipment and Consumer Goods--Balancing Decree--(see GESETZBLATT **[LEGAL GAZETTE]** 1 1980 No 1 p 1) in coordination with the minister for materials management and the heads of the other competent central state agencies:

To paragraph 2 of the Decree:

Paragraph 1

(1) The chairman of the State Planning Commission, the ministers, the directors general of combines and the heads of economic policy bodies shall discharge their balancing responsibilities in full agreement with the comprehensive social interests and develop them further as an important part of their management function. They shall adopt measures to ensure that the work of the bodies engaged in and charged with balancing execute their work in line with this great responsibility.

(2) Managers of balancing shall focus on the following tasks in preparing and implementing materials, equipment and consumer goods balancing tasks at all levels of the national economy to ensure the availability of resources, especially from domestic production, that meet domestic economic needs and their effective use for the people, the national economy and exports:

a) Requirements for materials, equipment and consumer goods that were established in line with central state balances for the purpose of increasing the supply and most effective use of the available end product shall form the basis for national goals and national planning targets as well as for the annual, quarterly and monthly plans of the ministries, combines and enterprises as

determinants of economic performance standards. All balancing decisions shall have the objective of achieving significant improvements in the input-output ratio. In making balancing decisions, it must be ensured that the unity of resource and financial plans is maintained, that productivity calculations and supply calculations are prepared and that the necessary decisions are made.

b) In balancing materials, equipment and consumer goods, it must be ensured that supplies are adequate for the various stages of the production process and, in particular, to meet foreign trade goals.

c) The heads of the central state organizations and the directors general of combines as well as the heads of the economic policy organizations shall take measures to ensure that consumers carry out in a more efficient manner their responsibilities for the exact justification of their requirements for energy, raw materials and other materials as well as subcontracted parts on the basis of progressive, scientific-technological norms, standards and identification numbers. The basic consideration shall be that the materials, equipment and consumer goods shown in the balance must not exceed the upper limit of the orders to be filled and the contracts to be concluded. It shall be ensured that, in line with the strictest standards, the resources are efficiently used and that non-required materials are returned without delay. It shall be ensured that no resource orders are placed until available supplies have been carefully checked.

d) In coordinating the materials, equipment and consumer goods, it shall be ensured that the available resources are adequate to meet the economically necessary productivity goals. Strictest economizing measures shall be applied in the use of resources and energy to cut the consumption of resources and increase the volume of economic end products. The manufactured products shall be used in an economically effective manner.

e) In line with economic capabilities, reserves shall be set up on a step-by-step basis. In order to employ them in an economically effective way, they shall be used in a timely fashion and aimed at meeting the objectives of the plans and the commitments the workers have entered into. Balancing shall help mobilize reserves which increase available supplies. Toward that end, the commitments of the workers to exceed established production and performance targets and to economize resources as well as use available surplus stocks shall be made plan- and balance-effective.

f) The chairman of the State Planning Commission and the ministers responsible for balancing shall provide organizations engaged in and charged with balancing with central coordination directives for key production areas and for the economical use of resources in order to ensure the effective fulfillment of all economic needs.

g) In implementing the annual plan, the heads of bodies engaged in and charged with balancing shall carry out in an effective manner all tasks involving materials, equipment and consumer goods balancing. In line with the basic new demands on coordination managers at all levels of the economy--which are the

result of the increasing acceleration of the production process and of changing conditions, particularly in international markets--balancing and continuous analysis shall be used and further improved as important prerequisites and tools for making operational decisions concerning the effective employment of available capacities and resources to determine whether the production and distribution targets established in the balances have been met.

h) During plan implementation, the heads of bodies engaged in and charged with balancing shall make the necessary operational decisions, immediately after the existing problem has been identified, to adjust to market requirements and economic needs in a flexible way. The objective shall be:

- to make the best possible use of existing capacities and resources and
- to ensure the availability of materials and technologies.

This shall be accomplished on the basis of:

- state balancing of materials, equipment and consumer goods, of production and of exports and imports as well as of supplies for the people and
- their own analyses, calculations and controls of the plan implementation as well as
- regular review of contractual commitments for production orders and the necessary subcontracted supplies.

i) The directors general of combines, as heads of the balancing bodies, shall see to it that the combines and enterprises negotiate the short delivery periods in their economic agreements that are necessary to provide more flexibility in instances in which the demand situation has changed.

to paragraph 3 of the Decree:

Paragraph 2

(1) Materials, equipment and consumer goods balancing shall be done by way of preparing and implementing the annual plans in accordance with the diverse production conditions by balance categories:

- a) energy resource balances,
- b) raw and other materials balances as well as balances for subcontracted products,
- c) equipment balances,
- d) industrial plant balances and
- e) consumer goods balances. These categories shall include spare parts and rationalization equipment.

(2) The heads of organizations engaged in and charged with balancing shall organize their work in line with the specific requirements of the various types of balances, according to strict rules based on precise documentation, particularly progressive, scientific-technological norms, standards and identification numbers. They shall make balance calculations on the demand for and consumption of resources before making any balancing decisions. Specifically, this shall be done for the following tasks:

a) complete guarantee of tasks established in the balances for the respective sections of the plans (in particular production, science and technology, foreign trade, basic resource production and supplies for the people),

b) influence of producers on the supply of resources and of consumers on the most effective use of the resources,

c) carrying out of balancing-related advisory services, reviews and justifications, respectively, of producer offers as well as consumer-demand requirements, with strict application of economically binding standards,

d) balancing-implementation control on the basis of precise accounting statements and balance-specific analyses aimed at developing supply and consumption reserves in the economic interest.

3) The heads of the central state organs, the directors general of combines and the chiefs of economic policy organizations shall ensure that the identification and justification by consumers of their economic needs and by producers of their improved performance correspond to state plans. The balance preparation and implementation shall be based on the following:

a) resource consumption norms and standards based on technological-economic considerations which meet the highest scientific-technological standards and serve to achieve maximum results on a broad front.

b) identification of details of production capacities and their utilization that are based on progressive technologies and procedures and that ensure a high utilization of the basic resources.

c) economically justified norms and standards of stockpiling that ensure the accelerated turnover of inventories and high inventory economies.

(4) The heads of the balancing bodies shall ensure in their areas of responsibility the availability of resources and workers that are necessary for discharging their duties as a comprehensive social task. They shall ensure the balancing work of their subordinate sectors and departments in accordance with economic requirements. The heads of balancing organizations shall set up qualification standards for those working on balances and provide relevant continuing training. They shall reduce the balancing work with the help of electronic data processing by making use of the experiences gained by sectors which benefit from central-office EDP operations.

to paragraph 4 of the Decree:

Paragraph 3

(1) The heads of central state organs, the directors general of combines, the managers of technical organizations in local councils, the heads of economic policy bodies as well as of enterprises and institutions shall ensure that the tasks established in the balances for production as well as balance shares and quotas are included in the plans for ministries, combines, enterprises and institutions and are carried out effectively. To ensure that the resource structure of production meets the economic requirements, product-specific production targets from the materials, equipment and consumer goods balances must be incorporated in their entirety in managing the preparation, implementation and control of plans at all management levels. In this, there shall be complete agreement between the production quotas established in the materials, equipment and consumer goods balances as national planning targets and the production goals listed in the plans. For economically important products, product-specific production quotas shall be set up every quarter for the individual months on the basis of the materials, equipment and consumer goods balances.

(2) The organizations responsible for balancing shall step up their control operations. To improve the quality of the balancing system, particularly to increase stocks and to utilize them in an economically effective way, the ministers responsible for balancing operations shall arrange for regular reviews of the accounting activities of their subordinate combines and make relevant decisions, in accordance with the results of these examinations.

to paragraph 5 of the Decree:

Paragraph 4

In preparation of national economic plans, the chairman of the State Planning Commission, in coordination with the respective ministers, decides annually the nomenclature of state planning and ministerial balances and the nomenclature of the quarterly breakdown of production quotas by months for economically important products, according to economic needs.

to paragraph 6 of the Decree:

Paragraph 5

For products which the central authorities have declared to be of vital importance to the economy, particularly energy, raw materials and other materials as well as subcontracted products, quarterly balances of the state and ministerial balances of annual economic plans shall be prepared and certified in accordance with established balancing responsibilities, as well as for energy resources, and quarterly quotas shall be established for other selected products. Taking account of the main areas of supply and distribution, the chairman of the State Planning Commission shall present the nomenclature of selected materials, equipment and consumer goods, which--together with the

state planning targets of the annual report--are submitted to the Council of Ministers for certification every 3 months.

to paragraph 13, subparagraph 2 of the Decree:

Paragraph 6

Target shares shall be issued for:

- state plans by the State Planning Commission,
- ministerial plans by the ministries in charge of balancing and
- combine balances--which according to paragraph 3, subparagraph 3, of the Decree must be certified by ministers--by the ministers responsible for balancing. The same applies to quotas.

to paragraph 14 of the Decree:

Paragraph 7

(1) To ensure the plan-effective utilization of all materials reserves, especially of those that result from operative considerations related to changes in demand, from the use of available surplus stocks and from the return of materials to the state, target shares, which are not essential for carrying out the plans, shall be returned by the consumers to the organizations engaged in, and responsible for, balancing through their supervisory bodies and shall be made by these to be plan- and balance-effective. The return shall be made without delay, not later than 14 days after identification, unless the supervisory body decides differently. This also applies to quotas and other materials supplies. The supervisory consumer organs shall advise their supply sectors of the materials returned.

(2) The consumer shall reduce the orders in question vis-a-vis the suppliers in line with the materials returned and take immediate action to change or cancel the respective contracts. The suppliers shall change or cancel the contracts in line with the returned materials without penalty. At the same time, they shall submit to the agencies engaged in and responsible for balancing their proposals for the effective use of the materials supplies and for the utilization of available capacities in order to resolve tasks that are important to the economy.

(3) Materials which the bodies engaged in and responsible for balancing as well as the worker and farmer inspection, state balancing inspection, energy inspection and state financial auditing agencies and the state bank and other state control agencies in enterprises and combines have determined to be non-essential must be returned immediately. In those cases, redistribution within the combine is not permitted. For positions in state plan and ministerial balances, materials which have been identified by the state control authorities as non-essential shall be returned to the State Planning Commission directly;

at the same time, the body engaged in and responsible for balancing shall be informed of the return. Target shares, quotas and other material stocks shall be reduced accordingly.

(4) Penalties in accordance with legal provisions shall be imposed in cases in which the return of non-essential materials stocks and the change or cancellation of contracts are the result of the neglect of the duty to determine and notify the requirements or which follow examinations by bodies engaged in and responsible for balancing or by control agencies.

(5) The heads of enterprises, combines and organizations which participate in supply and consumption operations as well as of bodies engaged in and responsible for balancing shall prepare the financial balance and the balance of consumption and production as required for balancing and shall provide good and timely information needed for this work, in conformity with certified materials, equipment and consumer-goods balances.

Paragraph 8

This implementation regulation takes effect upon publication.

Berlin, 2 June 1983

The Chairman

State Planning Commission

Schuerer

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LEIPZIG TRADE FAIR, IMPORT-EXPORT AGREEMENTS

Bonn INFORMATIONEN in German No 18, Sep 83 pp 11-13

[Article "Leipzig Trade Fair 1983," unsigned]

[Text] More than 6,500 exhibitors from 45 countries (13 communist nations, 21 Western industrial countries, 11 developing countries) participated in the fall 1983 fair in Leipzig. The largest exhibitor contingent--after the GDR--came from the USSR and the FRG. Erich Honecker, GDR State Council chairman, whose tour of the fair the SED newspaper NEUES DEUTSCHLAND illustrated in 25 photos, visited the booth of the FRG's state-owned VEBA concern and told State Secretary Hans-Otto Braeutigam, the head of the FRG Permanent Mission to the GDR, that "relations between the GDR and the FRG overall are improving," alongside business relations among firms.

Politicians from both German states conducted numerous meetings during the fair. For instance, State Secretary Dieter von Wuerzen, FRG Ministry of Economics, conferred with GDR Foreign Trade Minister Horst Soelle. Walter Leisler Kiep, CDU treasurer, Birgit Breuel, economics minister of Lower Saxony, Edwin Huegel, the Saarland's Minister of Economics, Volker Lange, senator of the Hamburg Port Authority, and Dieter Klink, president of the Bremen City Parliament, talked with representatives of the GDR's political and government leaders. In addition, a delegation composed of all factions of the FRG Parliament and led by Gerhard Reddemann, chairman of the Inter-German Committee, was in Leipzig during the trade fair.

Altogether, eight technical and 20 consumer goods branches were represented at the fair. As usual, the chemical and pharmaceutical industries were predominant. As at the spring fair, the theme was "micro-electronics." Electronic and microtechnical products were shown in connection with medical and lab technologies, with chemical and plastic processing equipment as well as printing and textile manufacturing machinery.

According to the GDR news media, the fair was characterized by "brisk negotiations and business transactions." However, interestingly, in most

instances the reported deals were relatively unspecific; also, the value of the individual agreements was not always indicated.

By far, the largest proportion of business contracts was with CEMA countries, among which those with the USSR were predominant. Besides contracts totalling R 600 million, a large number of additional business deals were reported with Soviet trading partners, primarily for machinery, vehicles and textiles. Thus, the GDR will supply to the USSR building and road construction machinery in the amount of R 20 million, textile machinery for R 31 million, textiles for R 200 million, and toys and sporting goods for R 43 million. In addition, 250 mine locomotives, 50 industrial locomotives, 362 railroad coaches and long-distance carriages, and automotive technology in the amount of R 10 million will be exported to the USSR.

In the electronics area, the GDR will deliver to the USSR a computerized system for an automobile plant in Minsk, magnetic memories for ADP (R 25 million) and bio-measurement technology for intensive care. Finally, both countries agreed to an exchange of chemical products totalling R 122 million.

In return, the GDR will import from the USSR one million tons of black-iron products (sheet metal, pipes etc.), 85,000 tons of cotton and machine tools totalling R 6 million.

Hungary ranks first among the other CEMA countries in terms of the number of contracts. Thus, the GDR will export to Hungary 260 mobile cranes, weighing technology, laundry equipment, harvester-thrashers and feed processing technology as well as pharmaceutical products, and it will buy from there alumina, electrical household appliances and shoes. In its trade with Rumania, the GDR will supply 350 feed harvesters, 500 swath-mowers and electro-technical equipment, and it will import drilling equipment for geological research and photo lenses.

The GDR is going to export to Poland a total of R 10 million worth of office computers and measurement technology as well as caterpillar rotary cranes. In return, it will receive construction machinery, medical technology and electro-acoustic products. The GDR newspapers also reported exports to Czechoslovakia (pharmaceutical end-products for R 13 million and harvester-thrashers), to Bulgaria (harvester-thrashers and feed processing technology), to Chile (textile machinery) and to Cuba (harvester-thrashers and pharmaceuticals). From Vietnam, the GDR will import cloth sports shoes and protective gloves in the amount of R 3 million. Barrier agreements were concluded with Yugoslavia for wiring material for electrical construction components.

In trade relations between the GDR and Western industrial countries as well as Third World countries, the reports indicate more export than import agreements. Thus, the GDR newspapers reported export contracts with the United Kingdom (imitation leather, geodetic instruments, pharmaceutical products), Greece (feed-crop technology and switches), Denmark (glass-fiber fabrics and electro-motors), Austria, Portugal, Finland, Belgium, France, Switzerland and the United States. The GDR will import textiles from Denmark, and consumer goods from Austria totalling "several million schillings."

As for trade with Third-World countries, the reports listed primarily contracts with the German Export Company, whose pharmaceutical products will be sent to Jordan, Kenya, Ghana, Algeria and Tunisia, among other countries. In addition, the GDR will supply machinery and technical equipment to Syria, India and Indonesia. From Syria, the GDR will import cotton and underwear.

An agreement designed to create "favorable conditions for merchandise shipping between the GDR and Canada" was also concluded.

FRG-GDR Agreements

The approximately 760 FRG exhibitors (1982: 540), who initially had gone to Leipzig with "low expectations," expressed "satisfaction" with the "generally friendly development" of the Leipzig trade fair, according to information from the German Chamber of Industry and Commerce (DIHT) in Bonn. A DIHT survey revealed that "considerable agreements had been completed, but that above all brisk negotiations" had taken place. Thus, FRG exhibitors of consumer goods reportedly obtained good contracts for the coming year. Those of the textile and clothing industries were at 1983 levels, and those for food and semi-luxury food products "declined somewhat."

Contracts for capital goods, on the other hand, are reported as below expectations; here, the FRG exhibitors are said to have been put off till the "magic year 1985," the beginning of the GDR's next five-year plan. Only some medium-sized exhibiting firms whose products serve the GDR's current key investment goals for modernization and rationalization, reportedly have been successful in obtaining approximately DM 10 million worth of orders and also had done "serious" negotiating.

According to the DIHT, the GDR had "expected" FRG capital-goods manufacturers to "accept even more rigorous GDR financing conditions" than before, which constitute a heavy burden on them. For instance, FRG suppliers are now being asked to provide credits without down-payments or intermediate payments and to agree that the GDR would make the first instalment payment only after one year, making it "impossible" for medium-sized companies to participate in such transactions.

Among the contracts concluded with FRG firms, there is also an agreement concerning the supply of pipes for the construction of a natural gas tie-line from the Czechoslovak border to West Berlin, NEUES DEUTSCHLAND reports. The delivery of brown coal to West Berlin, which is also mentioned, is said to be merely the continuation of brown-coal exports to the FRG and especially Berlin which have taken place for years.

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CSO: 2300/40

CHARTER FOR ACADEMY OF AGRICULTURE

East Berlin GESETZBLATT DER DEUTSCHEN DEMOKRATISCHEN REPUBLIK in German Part I
No 26, 27 Sep 83 pp 247-253

[Official text of "Statute of the Academy of Agricultural Sciences of the GDR--
Resolution of the Council of Ministers," signed by W. Stoph, chairman, GDR
Council of Ministers and Lietz, Minister of Agriculture, Forestry and Food-
stuffs Economy, 1 September 1983.]

[Text] 1

Functions and Tasks of the Academy

Article 1

(1) The Academy of Agricultural Sciences of the GDR (henceforth referred to as
the Academy) is the central scientific agricultural institution of the GDR.

(2) The Academy is under the minister of agriculture, forestry and foodstuffs
economy.

(3) The Academy deals with its task under SED leadership and on the ground of
laws and other legal regulations. In conformity with the growing social respon-
sibility of science in the continued shaping of the developed socialist society,
for carrying through the SED's economic strategy, it is making its contribution
to linking the advantages of socialism with the scientific-technical revolution.
Proceeding from the developmental trends in the natural and social sciences, it
creates the scientific lead for the further development and steady efficiency
improvement of agriculture. It is consistently working for the consolidation
of socialism and the preservation of peace. It is cultivating our intellectual-
cultural heritage.

(4) The Academy has science management functions and combines in its own science
institutions natural science, technical, technological and economic research po-
tentials. As a socialist research academy, it contributes to the further de-
velopment of the productive forces and production relations of socialist agri-
culture through top achievements and economically highly effective data from
basic and applied research. Based on long-term programs and the science and
technology plans, it has to elaborate research data for intensive agricultural

production with increasing and more stable yields and performances at growing effectiveness and, hence, to contribute to the acceleration of scientific-technical progress. To that end it has to coordinate its R&D efforts with other organs and carry them out through efforts of cooperation with its partners. By closely cooperating with the cooperative farmers and workers, it exercises an active influence on the application of data.

(4) The Academy ensures through its bodies the linkage with other science disciplines and branches. It organizes and promotes creative debate and the exchange of science experience. It draws its bodies into preparing propositions for management decisions in agriculture, forestry and the foodstuffs economy.

Article 2

(1) Through increasing the productivity of the intellectual-creative work of scientists and all associates and the close bonds between science and production as well as effective international cooperation, the Academy ensures a high scientific-theoretical level and increasing economic benefits from agricultural science research. Through steadily intensifying its research processes it ensures a high effectiveness for its research capacities. It ensures a creative work atmosphere in the science institutions and, through generalizing effective research methods and more rational socialist management forms, contributes to raising the productivity of intellectual-creative efforts. It develops efficient socialist research collectives and personalities, mainly through continual political-ideological efforts in education and through a purposeful continuing education of the associates in Marxism-Leninism and in their fields of specialization. It brings an active influence to bear on forming a highly qualified new generation of scientists.

(2) In close cooperation with other science institutions and based on analytical and prognostic assessments for agriculture, forestry and the foodstuffs economy, the Academy works out the principles for decision-making for the science and productivity development of the branch, the research strategy, and the application of R&D data in production. Its members and associates take part in official science and agricultural management and planning.

(3) The Academy manages and plans the R&D projects and the development of its institutions' personnel and material capacities. It carries out these efforts on the basis of long-term programs, the science and technology state plan and the science and technology plan requirement for agriculture, forestry and the foodstuffs economy, as confirmed by the minister of agriculture, forestry and foodstuffs economy. In preparing and implementing the plans, it implements the principles of democratic centralism and concentrates scientific-technical efforts on the major points of emphasis intended for the science lead.

(4) The Academy coordinates the research efforts of its research centers and institutes with the universities, colleges, other academies and institutions of other economic sectors and the official organs, state-owned combines and economic management organs of agriculture, forestry and the foodstuffs economy as well as their science facilities. Through various cooperation relations it develops socialist cooperative efforts among the various institutes and research collectives and with the practical field, especially with the innovators.

(3) In progressive production enterprises and facilities the Academy ensures the testing of new scientific data and the demonstration of scientific-technical progress in crucial sectors as well as the preparation of documentation and a systematic access to scientific-technical information for agri. state, forestry and the foodstuffs economy. It brings an active influence to bear on the application and enforcement of science data in the LPG's, DPG's and Vdt's and their cooperative facilities, and on the initial and continuing education of scientific personnel in agriculture. For that purpose it develops close cooperation with official organs, state-owned combines and economic management organs in agriculture, forestry and the foodstuffs economy, with scientific bodies in the academies, universities and colleges and with science associations.

(4) The Academy encourages and deepens efforts of international cooperation with science institutions in the USSR and the other countries in the community of socialist states. It manages and plans the development of its institutions' international socialist research cooperation with those in the USSR and the other COMECON member countries, whereby it actively contributes to the implementation of socialist economic integration. Based on GDR foreign policy and state security, it develops the cooperation with agricultural science institutions in other countries.

II

Management of the Academy

Article 1 -- The President

(1) The president manages the Academy in accordance with the principle of one-man management and initiative consultations on basic issues. His decisions are based on the SED resolutions and the laws and other legal regulations. The president is responsible for the Academy's fulfilling its tasks. The president is accountable for the Academy's activities to the minister of agriculture, forestry and foodstuffs economy.

(2) The president ensures the application of the socialist performance principles, the enforcing of the socialist personnel policy, and a creative atmosphere in all areas in the Academy.

(3) The president chairs the full session and the presidium of the Academy. In making decisions he relies on consultations with those and other bodies of the Academy.

(4) The president is chosen for 5 years by the regular members from the ranks of the regular members of the Academy. A candidacy calls for nomination from the minister of agriculture, forestry and foodstuffs economy. After having been chosen, the president is appointed by the chairman of the GDR Council of Ministers.

Article 2 -- The Vice-Presidents

(1) The first vice-president is the president's permanent deputy. Other vice-presidents may be appointed for major scientific areas in agricultural research. Vice-presidents are accountable to the president for fulfilling the tasks with which they are charged.

(1) Vice-presidents are chosen for 5 years by the regular members from the ranks of the regular members of the Academy. A candidacy calls for the concurrence from the minister of agriculture, forestry and foodstuff economy. After having been chosen, vice-presidents are appointed by the minister of agriculture, forestry and foodstuff industry.

Article 5 — Directors of the Academy

(1) Directors of the Academy are in charge of certain tasking sectors as charged by the president.

(2) The Directors of the Academy are chosen for 5 years by the regular members of the Academy. A candidacy calls for the concurrence from the minister of agriculture, forestry and foodstuff economy. After having been chosen, Directors are appointed by the president of the Academy.

Article 6

The responsibilities and competencies of the vice-presidents and directors of the Academy are settled by the standing orders of the Academy.

Article 7 — The Provision

(1) The provision of the Academy is the president's collective consultation organ for preparing decisions on the management, planning and organization of research and the scientific life in the Academy.

(2) Helping in programmatic and analytical conclusions, the provision confers on basic issues in the development of the agricultural sciences and of scientific-revolutionary programs in agriculture, forestry and the foodstuff economy and analyzes the level reached in research and its effectiveness as well as the formation of a young generation of scientists in the main sectors of agricultural sciences. It confers on the long-range agricultural research programs and sets the provision for decisionmaking for the science and production development of the branch.

(3) The provision is composed of the president and the vice-presidents and other members proposed by previous sessions and appointed for such functions for 5 years by the president in concurrence with the minister of agriculture, forestry and foodstuff economy.

III

Academy Institutions

Article 8

(1) To implement its research tasks, the Academy has institutions, especially research centers and institutes.

(2) The research centers and institutes of the Academy serve the research in the various fields of agriculture and function on the basis of the science and technology plan. Their work aims at high-level science results that will ensure the needed economic performance and efficiency growth. They take part in the transfer and introduction of such results to agricultural production.

(3) The scientists are under the obligation to fulfill the research tasks in fine quality and closely work together to that end with agriculture in the field. They gear their objectives and research data to international standards and develop creative capacities to accomplish top achievements, especially in socialist competition. They develop various forms of socialist cooperative efforts, a vivid life of science and creative debate.

(4) Research centers and institutes are subdivided into sectors, departments and testing stations. Decisions about this chief structure are up to the president. Other structural divisions are determined by the director of a facility.

(5) Research centers and institutes are run by the directors in accordance with the principles for one-man management and collective consultation. A director is appointed by the president of the Academy for 5 years upon the nomination by the regular members of the Academy and the concurrence from the minister of agriculture, forestry and foodstuffs economy.

(6) The directors of the research centers and institutes are responsible for the conceptual work for the development of the science field and for the plan fulfillment. They take an active part in research, organize the associates for a productive intellectual-creative work, encourage scientific debate and organize effective cooperation with the cooperating partners. They ensure the implementation of the socialist performance principles, especially by constant political-ideological efforts in education. They promote a new science generation according to plan and ensure a purposeful continuing education of the associates in Marxism-Leninism and in their specialized fields.

(7) Directors of sectors and heads of science departments are appointed by the president of the Academy for 5 years upon the request from a director of a research center or institute.

(8) Science councils may be set up in the research centers and institutes. They support the director in seeking to make high-level research highly effective and developing a vivid life of science. They confer on research conceptions and programs and analyze the status of research and of the development of a new generation of scientists. Science councils are composed of directors of sectors and heads of science departments and other outstanding scientists.

Article 9 -- Information and Documentation

(1) The Academy's science information and documentation are found in the libraries, the information and documentation facilities and the archives.

(2) The agricultural central library also functions as the central technical library for agriculture, forestry and the foodstuffs economy. A special statute determines its position and tasks.

(3) The Academy's central archives act on its behalf in accordance with the official archive regulations while being the administrative archives of final disposition.

(4) The Academy's institute for agricultural information and documentation functions as central headquarters for the information and documentation of agriculture, forestry and the foodstuffs economy. The agricultural central library and the central archives of the Academy belong to it. The Academy's institute for agricultural information and documentation makes scientific-technical information available systematically.

Article 10

Other Academy institutions are testing, production and project planning enterprises and training facilities. Directors of such facilities are appointed by the president of the Academy in terms of Article 8 section 6.

Article 11 -- The Associates of the Academy

(1) Through the responsible and exemplary fulfilment of their tasks and their great energy in socialist competition, the associates of the Academy help implement the Academy's public mission. They are drawn into the management activity.

(2) The associates' tasks, rights and duties are set down in legal regulations and labor regulations.

IV

Members and Bodies of the Academy

Article 12 -- Members

(1) The Academy has regular, corresponding and foreign members. There is a maximum of 81 regular and corresponding members, circa half of whom ought to be regular members.

(2) Regular members may be scientists and persons in the practical field and other personalities of the GDR who through their work have made an outstanding contribution to the enrichment and development of the agricultural sciences and the application of their data in agriculture, forestry and the foodstuffs economy or to the development of other science disciplines and, thus, to strengthening the GDR and enhancing its international prestige.

(3) Regular members have the right and the duty to participate in solving the tasks assigned by the SED and the GDR Council of Ministers. They have the right to bring up in the bodies of the Academy new developmental problems of science and of agriculture, forestry and the foodstuffs economy and submit suggestions for resolving them. They may propose distinctions as of Article 17. Regular members have the right to vote. They are under the obligation to do outstanding scientific work on their jobs, train a young generation of scientists, further socialist cooperative work, and actively contribute to the use

of research data, take part in the work in the plenum and other bodies of the Academy, and account for their scientific efforts. Regular members become emeritus when they reach retirement age, at which time their voting right expires. Their emeritus status is settled by the Academy's emeritus regulations.

(4) Scientists, especially young scientists and persons in the practical field in the GDR, who to a considerable degree contribute to the development of the agricultural sciences and other science disciplines may be elected corresponding members of the Academy. They are elected for a period up to the next election as of section 7. Corresponding members may opt for re-election. The duties and rights of corresponding members are like those of regular members as of section 3, excepting the voting right.

(5) Scientists of other states who have made a significant contribution to the development of the agricultural sciences and related science disciplines and who acknowledge the goals and tasks of the Academy may be elected as foreign members. They are entitled to attending plenary sessions where they have a voice in an advisory capacity.

(6) Regular and corresponding members taking an active part in the work of the Academy get reimbursed in accordance with provisions in force, an entitlement which terminates when they retire.

(7) Normally every 5 years the regular members vote in new Academy members. Nominations for them may be submitted by members of the Council of Ministers, especially the minister of agriculture, forestry and foodstuffs economy, social organizations, science academies and regular members and by other science institutions approached by the president of the Academy for submitting nominations. A candidacy requires the agreement by the head of the competent central official organ and the concurrence from the minister of agriculture, forestry and foodstuffs economy. Nominations have to be made public prior to the election.

(8) Academy membership may be terminated by a plenary resolution if the prerequisites for it disappear or the member of the Academy concerned has failed to exercise or has violated the obligations incumbent upon membership. The minister of agriculture, forestry and foodstuffs economy has to confirm a termination of membership.

Article 13 -- The Plenum

(1) The plenum is composed of the regular and corresponding members of the Academy.

(2) The plenum confers on fundamental problems in agricultural research, proceeding from the social and scientific-technical development of the GDR and the development of the productive forces and production relations in socialist agriculture, forestry and the foodstuffs economy. It takes part in the research strategy and science development and in long-term programs and plans and, in particular, considers analytical and prognostic data for setting new research tasks at a good time in order to ensure the science lead. It conducts an experience exchange and scientific debate on developmental problems, theories

and doctrines. It receives lectures and reports on research results and problems of special scientific importance and ensures the forming of expert opinion through complex consultations.

(3) The plenum works on recommendations for basic issues in the development of agricultural science and of agriculture, forestry and the foodstuffs economy.

(4) Unless other procedures are provided for, the plenum takes resolutions by a simple majority.

(5) To work on certain tasks, the plenum can set up task forces directed by members of the Academy.

Article 14 -- Science Councils, Sections and Commissions

(1) To ensure a high level of research and a corresponding science lead for practical public affairs in agriculture, forestry and the foodstuffs economy, science councils and sections are set up in the Academy.

(2) Science councils and sections have advisory and coordinating functions. They serve the scientists' experience exchange and scientific debate. They get involved in the elaboration of prognoses and research programs, the analysis and rating of research results achieved, the increasing of efficiency in the research processes and the public use of their data. They promote a close research cooperation with the other science institutions of agriculture, forestry and the foodstuffs economy, the Academy of Sciences and other GDR academies, university affairs and other branches of the national economy.

(3) To work on special tasks, standing or temporary commissions or working communities may be formed.

(4) Science councils, sections, commissions or working communities are chaired by members of the Academy. They are appointed by the president.

(5) There is a special regulation on the formation, composition and activities and on the appointment of the members of the science councils, sections, commissions or working communities and on the working groups of the plenum.

Article 15 -- Research Cooperation Communities and Breeder Communities

(1) For research complexes of the science and technology plan in agriculture, forestry and the foodstuffs economy, task-related research cooperation communities under the responsibility of a research center or institute are set up through coordination with the cooperating partners. The responsible facility for it is set up by order of the president on the basis of the research complexes of the science and technology plan. The director of the competent facility is responsible for the formation, management and activity of such research cooperation communities.

(2) The formation and management of breeder communities are arranged between the president of the Academy and the chiefs of the state-owned combines or economic management organs representing the cooperating partners.

(3) There are special regulations for the formation and working methods of research cooperation communities and breeder communities.

V

Conferences and Publications

Article 16

(1) The Academy sponsors science conferences, congresses and symposiums.

(2) To disseminate research data and production experiences and popularize our scientific-technical progress, the Academy publishes scientific journals, serial publications and monographs.

VI

Awards and Tributes

(1) The distinction of honorary president may be earned by a personality who gained extraordinary distinctions in managing the Academy and is awarded, upon a recommendation from the plenum of the Academy, by the minister of agriculture, forestry and foodstuffs economy.

(2) The Academy may appoint GDR scientists with special distinctions in the agricultural sciences and in the development of agriculture, forestry and the foodstuffs economy professors at the Academy of Agricultural Sciences of the GDR by the president of the Academy, upon concurrence from the minister of agriculture, forestry and foodstuffs economy and the minister for university and technical school affairs, after so being proposed by the presidium. Procedural details are laid down in special Academy regulations.

(3) The Academy has the right to grant science degrees on the basis of legal regulations. Details are set down in the order of procedure issued by the president of the Academy in concurrence with the minister for university and technical school affairs.

(4) The Academy may award the Academy's highest science distinction, the Erwin Baur Medal, to personalities who through their scientific achievements have to an outstanding degree contributed to the promotion of agriculture, forestry and the foodstuffs economy. For outstanding results in the continued shaping of the developed socialist society in the countryside the Academy may award the Edwin Hoernle Prize for social science research achievements and the Theodor Roemer Prize for natural science and technical-technological research achievements. Outstanding scientific achievements by young agricultural scientists may be acknowledged by the Academy by means of the Eilhard Alfred Mitscherlich Prize. Above and beyond that, exceptional achievements in agricultural science and its international economic cooperation may lead to entries in the Academy's Almanac of Honors. Special regulations have been issued on the details in award procedures.

VII

Legal Position and Representation

Article 18

(1) The Academy is a juristic person and budgetary organization and has its seat in Berlin, capital of the GDR.

(2) In legal transactions, the Academy is represented by the president of the Academy.

(3) The vice-presidents and the directors of the Academy represent the Academy in legal transactions within the scope of their field of responsibility and by means of authorizations provided them by the president of the Academy.

(4) Within the scope of authorizations granted in writing by those authorized as to sections 2 and 3, members of the Academy and other persons as well may represent the Academy and offer legally binding declarations.

Article 19

(1) The facilities of the Academy are competent and juristic persons. As a rule they are working in accordance with the principles of economic cost accounting.

(2) The facilities of the Academy are founded, added, removed and dissolved by orders from the minister of agriculture, forestry and foodstuffs economy. They have their own statute which, to become legally effective, has to be confirmed by the president of the Academy.

VIII

Final Provisions

Article 20

The president of the Academy issues the business rules, the election rules and any other necessary rules.

Article 21

(1) This statute goes into effect on 1 November 1983.

(2) Rescinded are at the same time:

--the decree of 6 June 1972 on the statute of the Academy of Agricultural Sciences of the GDR (GBL Part II No 38 p 438),

--the second decree, of 20 November 1981, on the second statute of the Academy of Agricultural Sciences of the GDR (GBL Part I No 34 p 390),

--the order of 29 January 1979, on an amendment for the statute of the Academy of Agricultural Sciences of the GDR (GBL Part I No 6 p 60),

--order no 2, of 9 July 1982, on an amendment for the statute of the Academy of Agricultural Sciences of the GDR (GBL Part I No 29 p 544).

RENEWED EMPHASIS ON METAL RECYCLING

East Berlin PRESSE-INFORMATIONEN in German No 107, 13 Sep 83 p 6

[Article by Press Office of GDR Council of Ministers: "Metals as Raw Materials of Great National Economic Value."]

[Text] Scrap is the most important and cheapest source for domestic metallurgical raw materials. Among the most important secondary metallurgical raw materials are steel and gray-iron scrap, nonferrous metal scrap--such as from aluminum, lead, zinc or copper--, high-grade alloy scrap containing noble metal, and alloy steel scrap containing molybdenum, cobalt, tungsten, nickel and chromium. They have a high place value to our national economy.

Using scrap instead of primary raw materials saves a lot of energy. Right now our national economy gets three fourths of the steel it needs, one third of the copper and zinc, half of the lead and 17 percent of the aluminum out of secondary metal raw materials.

The greater economic effectiveness of science and technology in the combines has a lot to do with it that more and more secondary raw materials can be used today. In 1982 as many as circa 250 R&D tasks were engaged in recycling them. At least 26.4 million tons have again be recycled this year and put to economic use. It places a high responsibility on science and technology. The science and technology plans contain many themes aimed at the speed-up in coming up with efficient enhanced refinement procedures for recycled raw materials and possibly reusing their precious substance completely. That applies, e.g., to reprocessing hard metal scrap and noble metal scrap of complex composition.

Great efforts are being made everywhere in our national economy to get more out of what we have got in resources. So, fewer metal raw materials come off the metal processing industry today than used to be the case, and the enterprises find it harder to get and process scrap. Still, what can be accomplished here is far from exhausted. Official measures and stipulations for collecting and pricing secondary raw materials are aimed at stimulating all efforts toward tapping all available reserves.

Significant economic reserves can be tapped by a more intensive utilization of all semifabricate components contained in secondary metal raw materials. Perceptible advances have been made in this since 1980 because more steel scrap

alloyed with chrome, nickel, molybdenum, cobalt and tungsten has been separated out and metallurgically processed. Right now, approximately 75 percent of all alloyed steel scrap obtained is separated out and used to produce proper alloyed steel. Thus the output in terms of specific quality groups rose by 155 percent between 1980 and 1982. Alloyed scrap, to be sure, only comes to 4 percent of the steel scrap collected in the GDR, but it covers between 25 and 50 percent of the total requirement of particular steel alloy elements for alloyed steel.

More and more nonferrous and noble metals are flowing in minute quantities into construction components and elements of electronics, communications and computer technology. While the proportion of noble metal scrap in total metal secondary raw materials is small, it yet is of high value to the national economy. Gold, silver, palladium and other noble metals can be recycled if they amount to at least 0.05 percent of what there is in the recycled raw materials. At such magnitudes they are already equal in value to all other semifabricate components contained therein or even higher in value. High-grade noble metal can be gotten in particular out of electronic scrap, photographic material and fixing solutions. At present, the VEB Albert Funk Mining and Metallurgical Combine, Freiberg is starting up a pilot plant meant for the recycling also of noble metals.

Greater initiatives, as in metallurgy and the potash industry, the chemical industry, electrical engineering and electronics, vehicle construction, transportation and post and telecommunications, have brought it about that, among other things, several tons of silver are extracted from secondary raw materials each year. By using more than 100 electrolytic devices to upgrade fixing baths in the enterprises of the VEB (state enterprise) and in other facilities, and through a short-term conversion to a new procedure for extracting silver from X-ray film in the Velten plant of the VEB Metal Dressing Combine, Brandenburg, other possibilities are at present being created for extracting silver from secondary raw materials.

The GDR has modern technical installations for processing special nonferrous metal scrap. That includes a refrigeration plant for crushing plastic coated aluminum and copper cable and separating the metal from the plastic. Another one specially serves to process steel-coated aluminum scrap, where one succeeds almost completely in separating all iron components from the aluminum so that the aluminum scrap becomes available without any further purification. This plant, for example, recycles the aluminum from spray bottles.

The population in our country is actively involved in collecting metallurgical raw materials. Scrap collected last year in the GDR came to 6 percent of the steel, 19 percent of the cast iron, 15 percent of the copper, 22 percent of the lead, and even 30 percent of the aluminum and the zinc of all the scrap collected. This demonstrates an overall social responsibility that does make a difference. Magdeburg Bezirk last year, collecting 83.5 kilogram of scrap per household, came up with the best result in our republic, increasing collections to 8 percent higher than in 1981.

Still there are large disparities among the territories. When all GDR kreises were compared last year, we got disparities of barely 7 kilogram in average scrap collection per capita. To eliminate such disparities altogether in the

collection of secondary raw materials, the 1983 national economic plan, among other things, arranges for an expansion of the collection point network by way of new construction and reconstruction. Furthermore, more than 2,000 collection points for secondary raw materials are at present being set up, primarily by social forces.

5885

CSO: 2300/34

GERMAN DEMOCRATIC REPUBLIC

OUTLINE OF MERCHANT SAILOR TRAINING PROVIDED

East Berlin VOLKSARMEE in German No 27 1983 (signed to press 27 Jun 83) p 11

[Unattributed article: "Able-bodied Seamen of the Merchant Fleet--Profession and Class Mission; Each Year Highly Trained Young Technicians Strengthen the Crews of Our Merchant Ships; the Road to Becoming an Officer is Open to the Best Sailors With an Appropriate Technical or College Education"]

[Text] Every year in September, when the young future seamen of our merchant fleet for the first time take possession of the modern August Luettgens Fleet Vocational School in Rostock and get to know one another, again and again many of them discover with happy surprise that, aside from their career goal, they have something else in common: their fathers are noncommissioned and commissioned officers of the National People's Army. In the same way that the latter are fulfilling their class mission for the protection of our German Democratic Republic, the sons have decided to combine their career development by carrying out an extremely important mission for the national economy: the transportation of our export and import goods on the seas. This is a significant class mission in carrying out the main task!

Increasing Assignments for Our Fleet

The merchant fleet of VEB [People's Enterprise] Deutfracht/Seereederei Rostock (DSR) within the People's Combine for Ocean Transport and Port Operations is the most important carrier for overseas trade in the German Democratic Republic. The requirements grow with the continual increase in our republic's trade with many of the world's countries. The 13,000 employees of VEB Deutfracht/Seereederei Rostock have responsibility for handling about a third of our foreign trade by sea.

It goes quite without saying, therefore, that our merchant fleet's ships are known in about 400 ports in 90 of the world's countries. The 172 modern container ships, mixed-cargo freighters, bulk goods ships, refrigerated ships and special-purpose ships--recognizable by our ensign on the stern and the blue-red-blue insignia of DSR on the smokestack--sail on all of the oceans.

Modern Technology Demands Experts

One out of two of our cargo ships is less than 10 years old. During the period from 1976 to 1980 our merchant fleet was modernized. During these years DSR put 57 new ships into service and at the same time retired older units. Since the mid-1970s the container ships, mixed-cargo freighters, bulk goods, refrigerated and special-purpose ships have also become larger. The degree of automation on board has doubled and is now at more than 80 percent.

In order to operate these modern ships safely, all of the crew members receive a well-founded training. In general, these men began their careers with professional training to be able-bodied seamen, including those who are now officers or even captains!

Representatives of Our State

The decision to apply for professional training in our merchant fleet was frequently the result of a desire to see the world. This is understandable, but above all else one should be aware that the crew members of our ships are representatives of our workers' and peasants' state wherever they go! Under particularly critical scrutiny while abroad, high political-ideological qualities, a class-conscious attitude, respect for laws, customs and habits as well as corresponding behavior are required of everyone. This entails responsibility, and for this reason, too, this occupation makes great demands on everyone who desires to learn it in the 2 years after successful completion of the 10th grade. In order to obtain a secondary school diploma at the same time, the career training lasts 3 years.

Everybody interested in the career of seaman should also bear this in mind: It requires reliability in work performance and in carrying out orders! The ability to make decisions and a readiness to act are needed for service on board; one has to be able to blend in with the collective of the crew. An able-bodied seaman is also characterized by orderliness, cleanliness and discipline.

Training on Land and at Sea

The career training already gives one a foretaste of what's to come. It all begins at the August Luertgens Fleet Vocational School in Rostock. During 1 year of basic training, theoretical and applied instruction is given in basic subjects and in order to impart knowledge, capability and skill in the fields of seamanship, nautical mechanics, mechanical technology, mechanical drawing, material properties, naval craftsmanship, ship operation as well as in maintenance and repair.

As preparation for the occupation, participation in an elective course of English is recommended. It is also good if one takes part in training in GST [Society for Sport and Technology] water sports or another type of GST sports before applying.

Acquisition of a career specialty occurs in the second year of instruction in one of two possible fields of specialization:

--deck operations and machinery

--below-deck machine operation.

The apprentices are familiarized with the actual working conditions for deck operations or below-deck machine operation on board 90 merchant ships, which serve simultaneously as floating training schools. They broaden their practical knowledge, capability and skill in operating, supervising, repair and maintenance and in the upkeep of equipment and aggregates. In so doing, they acquire the necessary experience for their future employment as technicians.

From Rostock to Havana

As technicians with a first-class training the young seamen go on short, medium or long voyages after successfully completing vocational training. The short voyages include the area of the North and Baltic Seas, routes sailed only by small- and medium-sized units having crews of between 7 and 20 men. The trips last 14 days to 4 weeks and the ships drop anchor in Leningrad or Copenhagen, for example. Medium voyages reach to the Mediterranean, to Algiers and Athens, among other places, and also to the West Coast of Africa. These vessels, with crews of between 20 and 30 men, are away for periods of up to 3 months.

On a long voyage, one is away from home for up to 6 months and sometimes longer. These ships head for ports such as Haiphong, Havana and Yokohama.

Shift Work as on Land

The work assignments of a seaman on board depend of course on the area of specialization, but in all instances they can be divided into the three basic tasks of "operating," "repair" and "maintenance." The seamen complete all of the work to be done during the day shift, that is, the normal working day from 8 am until 4 pm. One can also be assigned to a watch, i.e., 4 hours of work, 8 hours off. There are watches from midnight to 4 am, from 4 to 8 am and from 8 am to noon.

The seamen trained in deck operations, for example, supervise the dockworkers in port during stowage and lightening, i.e., during loading and unloading, under the direction of the loading officer. While this is being done, no one is allowed to smoke, for example. The smallest spark in the hold can lead to a dangerous fire while still in port or later at sea.

The crew takes care of the necessary repair and maintenance work during the voyage. Someone assigned to the 8-hour day shift, for instance, carries out routine ship maintenance, among other things. Rust scraping and painting are unchanging activities for a seaman because they help to prolong a

vessel's service life. To this is added the care of the deck machinery, for example, the loading equipment.

If a seaman has been assigned to watch duty, as helmsman for instance, he steers the ship from the bridge along its predetermined course according to the instructions of the watch officer, while another seaman placed on lookout observes the area surrounding the ship's location.

It Has to Run "Like Clockwork"

In the meantime, the seamen specializing in below-deck machine operation are in the machine room caring for their equipment so that everything runs "like clockwork." Under the direction of the "chief"--as the chief technical officer is called on board--the seamen operate, maintain and repair the aggregates required for the safe operation of the ship, such as main engine, auxiliary diesels, generators and the pump and bilge systems.

Many of our modern merchant ships of course already have machine operations on a 24-hour basis without watches, where the engines are controlled from the bridge. But this modern technology also requires much care and regular maintenance, particularly preventive upkeep.

Seaman-Student-Officer

It is no secret, moreover, that the VEB (state enterprise) Deutfracht/Seereederei Rostock puts great value on having sufficient availability of cadres with technical training and university education. It is therefore also the practice to enable proven seamen to acquire further education at institutions of learning specializing in specific branches of the economy, indeed, even to encourage them to do so. After a course of study at the technical school or university level at the Engineering School for Shipping in Warnemuende/-Wustrow they can become officers in our merchant marine. Experience has shown that after several voyages 40 percent of young technicians take advantage of this opportunity and qualify as leading cadres in our merchant marine.

12412

CSO: 2300/21

DEBATE ON PROFITABILITY OF AGRICULTURE CONTINUES

Budapest MAGYAR MEZOGAZDASAG in Hungarian No 37, 14 Sep 82 pp 3-4

/Text/ In issue No 30 of our journal we published an article by Dr Jozsef Huszar, chief of the economics main department of the TOT /National Council of Producer Cooperatives/, about the authenticity of the profit of agricultural operations. The article, intended to initiate a debate, elicited a lively response in professional public opinion, as proof of which a number of interesting comments reached our editors. We now begin publication of these. -The Editors

Comment by Ferenc Kocsis, Deputy Director for Economics, Pankota State Farm:

In his article Jozsef Huszar casts doubt on the authenticity of the profit of agricultural operations. He bases his findings on the fact that despite the high profit of 1982 the producer cooperatives were in a tight liquidity situation in the first 3 months of the year, their short term debt increased, etc. Thus, according to him, the profit shown in the balance was not in a liquid state, and as a consequence of this one can cast doubt on the authenticity of it.

The profit according to the balance would be in a 100 percent solvent state only if it contained the results of fully completed economic activities. Thus we would not be starting work for following years during the year in question. In reality this is not the case. It follows from this that the money of the profit of the year in question is largely invested, in that year, in the interest of the year following. To put it differently, if we were to subtract from the profit according to the balance that the profit made up of the actual production costs of uncompleted production we would get approximately the value of the liquid assets in the bank account and cash box. Thus, the uncompleted production carried as assets is not fictive profit; rather, it is profit already spent at the time of drawing up the balance.

A significant part of the liquid profit goes into taxes and funds and so the costs of crop production in the first half year must be covered from credit. In regard to the increase in indebtedness he should have

taken into account the fact that production costs for plowland crops have increased significantly. This cost increment will be returned in higher purchasing prices only in the course of marketing. Until then this sum--which in my opinion can be put at 1.5 to 2 billion forints--can be covered from short term credit. In my opinion this, and not the fictive profit, is the chief cause of the 2.3 billion forint increase in short term credit.

I do not entirely agree with his conclusions in connection with the use of funds generated from the 1982 profit either. Placing the obligatory reserve fund in permanent deposits is going slowly also because anyone who can is trying to postpone this as long as possible, using it in the interim as an interest-free resource.

In connection with the paying out of the shares fund the author does not mention how much is taken out of the shares fund generated in the balance by the shares fund deficit at the end of 1982, which may arise in part from the shares fund which can be spent in advance (innovation prizes, scholarships). He should have examined what funds are set aside for payments during the year (housing support, food and drink at programs, awards during the year, etc.) and how much was set aside for later years, possibly just because of the record profit. These things also contributed to the 65 percent fund use, not only the lack of liquidity.

In the second part of his article the author lays on the neck of the regulations errors which are made by the farms themselves on their partner enterprises, or which derive from a change in the production structure. The increase in accounts receivable can be caused by late payment by partners (which is ever more frequent), late accounting, delay in meeting outstanding debts, or an increase in the ratio of activities within the production structure (animal husbandry, industrial production), which can be performed throughout the year. (Receipts for wheat and corn are realized even if delayed to the end of the year, but animals and industrial products sold in December certainly increase the accounts receivable.) The above are certainly not the sins of regulation. Nor can regulation do anything about it if someone increases the profit by pre-accounting, by counting fictive results. Even if the appraisal of accounts receivable were restricted by production costs they would find a way to "cosmeticize" the profit. So I do not agree with the proposal of Jozsef Huszar. This would only increase the final accounting tasks, but it would not prevent the generation of fictive profit.

The other cause of insolvency, according to the author, is the appraisal of inventories, including uncompleted production, more correctly the over-appraisal of them. He writes: "Frequently the cooperatives are forced to follow the commercially faulty but otherwise legal practice of covering their profit deficit by overestimating the value of uncompleted production."

Joszeif Huszar is right that this practice is economically faulty, but he errs when he says that it is legal. Just the contrary. Financial audits try to uncover "overestimates" in evaluating inventories and uncompleted production, to correct the results and punish the practice.

Certainly Jozsef Huszar is seeking a solution to real problems. But establishing the real profit is not free of problems. It is difficult to isolate economic events between years. In reality no economic year is closed in every respect, because the activities of one year are not finished when activity in the interest of another, the following year, have begun. For example, in August the corn is still in the fields but the wheat stubble is being worked already in the interest of the following year. It is even more difficult, indeed impossible, to draw a line between the years in animal husbandry. The animals to be sold in the next year are there with the animals sold in December. It is not easy to fix limits on costs, but if day-to-day interests are forced into the background and if the regulations are adhered to the profit shown in the balance contains relatively few falsehoods. When evaluating inventories the leader who is looking ahead sees not only how much he can increase the profit of the year in question, he is also thinking how he must produce in the future. This will work only if the burdens of this year are not carried over to the next.

The regulator system does not encourage the generation of fictive profit; indeed, beginning in 1983 the accounting schema is trying to decrease the items which increase the year-end inventory value (marketing costs, the difference from the inventory value of the preceding year). It is another question that, unfortunately, the regulations can be interpreted in different ways and that a good number of the conflicts derive from this.

Comment by Jozsef Nemeth, Economist, Mate Zalka Producer Cooperative, Gyorszemere:

There is a large deviation between profit and liquid assets, based on neglecting the economic thesis that surplus value arises only after sale of the product. Since accounting and financial regulation does not show profit as the balance of receipts and expenditures it is understandable why the role of credit is increasing in the realization of profit.

The author of the debate initiating article raised several matters (over-evaluation of inventories, pre-accounting, etc.) which can have the effect of increasing profit without the creation of real surplus value. But profit can be increased artificially not only by over-evaluating inventories but also by recording diminished production costs. It may happen that they cannot sell the material stockpiled, or can sell it only at a price below the diminished production cost. In either case the profit recorded in the preceding year is really a deficit. In general this happens in the weaker cooperatives, thus they pay higher than ordinary taxes and generate a larger incentive fund. Production costs are lower in cooperatives which manage better, and thus inventories

are lower. So the profit is lower than the actual profit, but solvency is good. This accounting regulation acts against differentiation. It slows the development of the cooperatives which manage better and accelerates that of those managing badly, thus forcing the weaker cooperatives to assume credit also.

But profit is distorted not only because of errors in accounting for circulating assets but also because of contradictions in accounting for fixed assets. The enterprises put even unused or ruined fixed assets in the balance at net value, since the scrapping of them (because of the state support for them) does not take place at the calculated amortization cost, and this modifies production costs and thus the inventories. Assets written off to zero--which are still used or could be used--distort the picture in the opposite direction.

The present enterprise profit is not a sufficiently objective indicator to serve as a basis for withdrawals and fund generation.

In my opinion the category of enterprises profit should be left as an internal enterprise index, because then no interest would be attached to distort it. The assets needed to operate the state should be withdrawn as a function of receipts and expenditures. That is, we should regard money expenditures as if they were credits and should regard money receipts as if they were deposits. Putting it more clearly, we might pay, let us say, 3 percent interest in expenditures. This would be decreased by the one percent interest on inventories, and the sum remaining would be paid into the budget. This method would have a stronger effect in decreasing costs, and at the same time it would encourage an increase in profits. It would have a good effect in increasing efficiency, because then the taxes would be smaller in comparison. The expenditures should not be punished, because then the other enterprise would have to pay a higher tax. The effect in mobilizing stockpiles would be substantially greater than in the measures applied thus far. Developmental assets should not be isolated from the viewpoint of expenditures, because I will be able to finance such goals only from money receipts. The present system of fixed assets accounting should be reviewed also, because the system of uniform amortization norms is not reliable. Conditions and use are different from farm to farm, so determining the keys should be in the enterprise sphere. Decreasing the difference between receipts and expenditures by the value of the taxes would define the freedom of movement of the enterprises in the areas of both consumption and accumulation.

From the viewpoint of the national economy only a part of enterprise consumption is really consumption, because the workers spend a part of their money on durable tools or put it into the bank and thus a part of enterprise consumption becomes accumulation.

One should not make the enterprise consumption-accumulation ratio uniform (75:25) because it should develop objectively as a function of possibilities and needs.

To sum up, I feel that the category of enterprise profit is not sufficiently objective to be a basis for economic regulation or planning. But it can be used as an operational index for an analysis of economic processes within the enterprise.

I do not consider it necessary to segregate developmental assets, nor do I consider the settling of amortization costs necessary. The enterprises cover such expenditures from their receipts. The present regulation breaks the economic process by using an index which cannot be real, because interest attaches to distorting it. Thus the work of the enterprise cannot be judged realistically. The most important factor for a real judgement of enterprise management is solvency. And this can be judged best by other enterprises, the bank and the workers of the enterprise itself.

8984

CSO: 2500/22

HUNGARY

BRIEFS

MAXIMUM INTEREST ON DONATIONS--The Ministry of Finance has ruled that maximum interest rates, currently 8 percent, should be paid on donations made for purposes of public interest. Donations must be made to the checking account of the National Savings Bank. The basic sum or the interest therefrom is to be distributed in accord with the instruction of the donor. Original interest rates were 6 percent, but due to the worthy goals of the contributions, it was decided that deposits to foundations for worthy causes should automatically receive the highest prevailing interest rates. Although any property classifiable as wealth may be donated, interest will be paid only in return for monetary contributions. [Budapest MAGYAR HIRLAP in Hungarian 13 Oct 83 p 5]

CSO: 2500/41

FOREIGN DEBT MANAGEMENT HISTORY, FUTURE OPTIONS EXAMINED

Warsaw RYNKI ZAGRANICZNE in Polish 3, 8 Sep 83

[Article by Bronislaw Sulimerski: "Our Country's Debt Problems"]

[3 Sep 83 p 8]

[Text] As of the end of 1982, Poland's long and medium-term hard currency debts amounted to 23,765 million dollars, and short-term debts to 1,075 million dollars. In the socialist bloc foreign exchange area, [Poland's] debts at the end of 1982 amounted to 3,747 million transferable rubles. The bulk of this sum is owed to the USSR. In terms of U.S. dollars, the country's total debt amounts to about 29.8 billion. Thus its hard currency debts amount to 83 percent of the total debt.

On the basis of statistical materials made available to Poland's creditors, it can be calculated that as of the end of 1982, 78 percent of Poland's hard currency debts were owed to developed capitalist countries. A total of 8.5 percent was owed to CEMA countries, that is, slightly more than to Brazil alone (7.5 percent), Poland's biggest creditor in the "other" group, which in its entirety is owed 11.5 percent of our debts.

An analysis of the materials submitted to the creditors reveals that of the debts owed to the most developed Western countries, nearly 40 percent are owed to the German Federal Republic and the USA, and the other 40 percent to the remaining main creditors: France, Great Britain, Austria and Italy. As of 31 December 1982, the contribution of the individual countries was the following:

FRG	22.1 percent
USA	17.3 percent
France	14.0 percent
Great Britain	10.0 percent
Austria	9.1 percent
Italy	6.4 percent

In the hard currency structure of Poland's debts, U.S. dollars play the biggest role--over 40 percent of the debts are owed in this currency; 20 percent are owed in West German marks, and 12-14 percent in Swiss francs. Thus over three-fourths of Poland's hard currency debts are owed in the above mentioned currencies. The strengthening of the dollar in 1982 resulted in the increased involvement of this currency in Poland's debts and appropriately smaller participation of the remaining currencies.

With the exclusion of suppliers' credits (8 percent of the hard currency debts), 55 percent of Poland's long- and medium-term debts by the end of 1982 consisted of credits and guaranteed loans and 45 percent of non-guaranteed loans.

Situation of Main Creditors

The description of the amount and structure of debts does not sufficiently characterize their meaning for the economy, or especially, the connected liabilities. In order to examine this, it is necessary to establish the relationship of the debts to the basic economic quantities, particularly foreign trade, and to make an international comparison of the indices obtained. Particularly important are the indices of servicing the debt, relation of the debts and export, amount of debts and payment per capita, as well as distribution of payments in time. However, it is difficult to obtain credible and internationally comparable data regarding the aforementioned indices. These data are prepared by various methods, for various periods of time and as a rule are very delayed and incomplete.

We quote below the estimates of Morgan Guaranty Trust regarding the debts of 15 countries as of the end of 1982, payments for them to be made in 1983 and the relation of payments to exports. The main advantage of the table is that it is very up to date, although the quoted data are of estimated value and may cause reservations.

Table 1

Debt Specification of Major Borrowing Countries

	A (in billions of dollars)	B (in billions of dollars)	C (percents)
Brazil	87.0	30.8	117
Mexico	80.1	43.1	126
Argentina	43.0	18.4	153
South Korea	36.0	15.7	49
Venezuela	28.0	19.9	101
Israel	26.7	15.2	126
Poland	26.0	7.8	94
Egypt	19.2	6.0	46
Yugoslavia	19.0	6.0	41
Philippines	16.6	7.0	79
Peru	11.5	3.9	79

Nigeria	9.3	4.9	28
Zaire	5.1	1.2	83
Zambia	4.5	2.0	195
Bolivia	3.1	1.0	118

A - Debts as of the end of 1982;

B - Debt payments, including installments and interest, to be paid in 1983;

C - Relation of payments to exports.

Source: Morgan Guaranty Trust, Quoted in TIME Vol 121 No 2 p 5.

Poland in the Middle of the List

Poland is not among the countries with the largest amount of debt per capita. Among the 15 countries listed, it places eighth. The per capita debt amount is 724 dollars, while in Mexico and Argentina it exceeds 1,000 dollars and in Venezuela, 2,000. In the country with the largest debt, Israel, the amount reaches 7,000 dollars.

In evaluating the amount of debt in "permissible" and "excessive" categories, indices showing the possibilities of debt payments by the given country, and possibilities of current debt services, are important. In the latter case, the aforementioned index of debt servicing, that is, the relation of payments (installments plus interest) to be paid in the given year to exports in that year, is used. It is an index decisive for short-term evaluation of the solvency of borrower countries, as well as possibilities and conditions for granting them further loans.

Only a few years ago the opinion prevailed that the burden of debt servicing becomes excessive if the index in question surpasses 25-30 percent of revenues from exports. In recent years many countries exceeded this level and the interpretation of the service index underwent certain moderation. There is no doubt that in the case of Poland this index exceeded the alarm level already at the onset of the 1976-80 5-year period, and continued to grow fast. In 1979 the costs of debt servicing nearly equalled hard currency exports, surpassing this level in 1980. The year 1981 was atypical in this respect, because on the basis of an agreement with the creditors, the bulk of payments--both guaranteed loans and commercial bank loans--was postponed. In 1982 the situation was different in this respect due to political reasons, negotiations on the postponement of payments for loans guaranteed by Western governments and payments for these were halted. On the other hand, an agreement was reached with private banks.

Index of Debt Service

1971 - 20
 1972 - 18
 1973 - 17
 1974 - 24

1975	-	32
1976	-	41
1977	-	55
1978	-	76
1979	-	94
1980	-	101

Source: "Bilans platniczy Polski w latach 1971-1980. Opracowanie Ministerstwa Finansow i NBP." [Poland's Balance of Payments, 1971-1980, Prepared by the Ministry of Finance and the Polish National Bank]

The estimates of the debt service indices in 1983, quoted by the Morgan Guaranty Trust table (compare the last column) raise doubts, particularly with regard to the excessive size of some indices and the ignoring of the already negotiated postponements of payments.

High Index of the Economy's Liabilities

One of the indices illustrating debt liabilities of a given country's economy is the relation of the debt to hard currency exports. This index demonstrates how many years of exports would be necessary to repay the whole debt. Taking under consideration the economic crisis in Poland, accompanied by decline in exports with simultaneous increase of the debt, the index in question is among the highest in the world.

An important criterion for evaluating the economy's debt liabilities is the time distribution of the debt payments, or otherwise, the payments calendar. Payments spread over a long period of time, with the prevalence of so-called "later" payments, is considered preferable. Concentration of payments over a short period of time causes financial stress, making it more difficult for the borrower to meet the payments, limiting the possibility of refinancing the debt and negatively influencing the borrower's credit position.

The main source of data regarding the payments calendar is the half-year reports of the Bank of International Settlements (BIS) in Basilea. These, however, concern only a part of the debts of particular countries and areas, that is, debts owed to commercial banks. These constitute among two-thirds of the total debt of developing countries and less than half of Poland's debt.

In December 1982, the BIS published data on the payments calendar for the half-year of 1982. The general conclusion resulting from them is that the payments calendar for bank debts in Poland's case is slightly more favorable than in general for the CEMA and developing countries. The latter ought to pay half of their debt within a year, while Poland about one-third, and countries of Eastern Europe together--nearly 40 percent. It must, however, be emphasized that due to the size of the debt and decline in paying abilities, this index insufficiently reflects Poland's liability of debt service. Although the debt is relatively well spread in time (apart from the negotiated postponements and delays in payments), nevertheless in absolute figures it exceeds the country's payment abilities.

Relatively Good Payments Situation

From the middle of 1981 to the middle of 1982, a generally favorable trend in extending the payments period of the socialist countries' bank debts has been taking place. This constitutes a certain paradox, since it is above all the result of the deterioration of these countries' credit position, which revealed itself in limiting short-term credits for the CEMA countries by the banks. Thus automatically the average period of the granted credit underwent a prolongation.

Using Table 1 and the GUS [Main Office of Statistics] yearbook one can calculate the size of per capita payments for 1983 of the most heavily indebted countries. Against the background of these countries Poland's situation is relatively good, bearing in mind the reservations made in the discussion of the payments calendar. Among the 15 countries listed in Table 1, Poland places 10th in 1983 with respect to the size of payments per capita.

The report on the relation of payments to exports in general points out that Poland's situation in this respect is better than that of the most heavily indebted developing countries.

Table 2

Per capita payments in 1983 and the relation of payments to exports

	<u>A</u>	<u>B</u>
Israel	3848	2.83
Mexico	600	2.81
Argentina	680	2.30
Brazil	253	1.54
Venezuela	1430	1.40
Philippines	141	1.18
South Korea	405	0.73
Yugoslavia	266	0.69
Poland	217	0.59

A - Per capita payments in dollars;

B - Relations of payments to exports in general.

[In one of the next issues of RYNEK ZAGRANICZNY we will publish another article by this author, discussing the attempts made by our country to solve the debt problems, and the results achieved]

[8 Sep 83 p 8]

[Text] The attempts to formulate a program to solve the debt problem undertaken so far differ in their assumptions and goals. Evaluating them from a realistic point of view, one must take into consideration the country's possibilities and economic needs, the conditions for a conversion of the debt which would be acceptable to the creditors, and the long-term financial effects of particular solutions.

As of the first quarter of 1983, the ways of resolving the debt problem can be summarized in three main variants. In the first two, that is, restructuring the debt and a moratorium, the conditions and payments calendar are changed in agreement with the creditors. The third variant is repudiation, or otherwise a one-sided suspension of payments without an agreement with the creditors. Repudiation, however, would bring very severe retaliatory actions from the creditor countries. In the first stage these would consist of blocking and confiscating Polish remittances and property abroad. Moreover, we would forfeit the right to obtain new loans, which in turn would result in a precipitous decline in trade turnovers. Above all, however, Poland could not engage in direct trade with Western countries, as all of our remittances from exports would be immediately confiscated on behalf of the creditors by force of law. Also, Poland's admission to the International Monetary Fund would be ruled out in the long run, together with the advantages in improving the country's payments situation and credit standing.

This variant must therefore be excluded as definitely damaging. Declaring bankruptcy would bring results similar to repudiation. Therefore, it appears necessary to continue activities aimed at avoiding this danger and the losses connected with it.

Stages of Therapy

A restructuring of the debt has been taking place since the first half of 1981, when it was necessary to suspend debt servicing entirely and for agreed periods of time. By way of an agreement with the creditor countries, 90 percent of the installments and interest on the guaranteed loans were postponed from 1981 to the period of 1986-1989. At the same time Poland retained the opportunity to obtain further loans.

The second stage consisted of negotiations with Western banks. These also ended in an agreement, signed in September 1981. The agreement concerned only capital installments, and the payment of 95 percent of the installments owed to banks in 1981 was postponed to the years 1986-1989, while the remaining 5 percent, to the year 1982. The payment of interest was not postponed. Additionally, Poland obtained new loans totalling 4.9 billion dollars.

Within the framework of the sanctions placed on our country after the imposition of martial law, the governments of Western countries suspended negotiations with Poland regarding the postponement of guaranteed loan installments due in 1982. They also refused to give Poland new loans and--with a few exceptions--blocked loans granted earlier.

The attitude of Western commercial banks was different. After Poland paid (in the first quarter of 1982) overdue interest for 1981, negotiations were undertaken regarding the refinancing of payments of non-guaranteed loans due in 1982. Since the country's payment situation deteriorated, the Polish side asked for better conditions for refinancing than those obtained in 1981. Better conditions for payments in 1982 were achieved, taking into consideration the country's payment possibilities. For the sum equal to half of the payments agreed for 1982, Poland obtained short-term credits for supply imports. In total, the sum of the interest paid in 1982 was considerably diminished.

With relation to the payment of capital installments, the conditions analogous to those obtained for 1981 were obtained, namely a postponement of 95 percent of installments due in 1982 to the years 1986-1989, and the remaining 5 percent--to 1983. As a result, the total payments on the debt in 1982 amounted to 2.1 billion dollars--the same level forecast by the yearly plan for the balance of payments.

A Small "Draw" in Vienna

Negotiations on refinancing the payments of non-guaranteed loans are currently under way. On 17 September a preliminary agreement was signed in Vienna providing for a postponement of the debt owed by Poland to commercial banks for 1983. The conditions obtained can be considered favorable; in some respects they are even better than those contained in the agreements of last year and 2 years ago.

It was agreed that 95 percent of the payments of installments in capital, due for 1983, will be postponed to the years 1988-1993, and payments in that period will be made "gradually"; that is, not in equal installments, but from 10 up to as much as 30 percent. This means that the deadlines for payments of capital installments have been extended to 10 years with a 5-year grace period with relation to the formerly agreed transfer of payments to 7 years with a 6-year grace period.

It was also agreed that for the sum equal to 65 percent of payments for current interest, Poland will obtain short-term loans for supply imports. In other words, 35 percent of interest due in the current year will be paid in cash as opposed to 50 percent in the past year. It should be stressed here that technicalities concerning the means of utilizing the new short-term loans are for the Polish side much more convenient than in last year's agreement. The point is that Poland will have much greater freedom to dispose of these funds.

The only disadvantage concerned the amount of interest of the postponed capital installments. The present rate is 1 and 7/8 percent above the LIBOR rate plus 1 percent for the "refinancing fee"; that is, by 1/8 percentage point higher than in the 1982 agreement.

Necessity for Persistent Negotiations

A gradual increase in the positive balance of trade turnover with hard currency countries ought to create conditions for continuation of negotiations with Poland's creditors on the restructuring of the payments for our obligations and for long-term actions aimed at solving the debt problem. The size of the payments must on the one hand be adjusted to the country's real payment possibilities, and, on the other, must assure continuation of trade exchange with the West, possibly with a high level of turnover.

In the period 1983-1985 the country's economic situation requires that the balance of payments be less burdened by payments on the interest. It is forecast that only by the end of the current decade will a credit balance of trade

reach a level permitting full payment on the interest. Until that time the debt will be increasing, although the yearly increases will grow smaller.

Reaching an agreement with the creditors regarding the postponement of the main load of the debt payments from the years 1983-1985 to a later period seems realistic. This concerns both the guaranteed and non-guaranteed loans obtained from capitalist countries, and hard currency loans obtained from socialist countries.

Seeking Changes in the Methods of Concluding Agreements

Efforts are being made to conclude agreements with creditors which would include payment obligations spread over a period of several years. This would mean an improvement with regard to the current methods of concluding agreements which cover 1 year only. This requires not only a positive evolution of the banks' attitude, but also that of Western governments with regard to guaranteed loans. So far, banks are unwilling to accept such a solution. This is proven by the latest agreement of 17 September of the current year regarding debt payments for only 1983.

As has already been mentioned, in negotiations with commercial banks on postponing the payments on non-guaranteed loans in 1982, Poland has obtained better payment conditions. This concerns above all short-term loans for import supplies. This direction of action ought to be maintained in further talks with the creditors. It would be desirable to obtain in the form of commodity credits a larger than heretofore part or even the total of interest payments on a non-guaranteed loan and extending the period of receiving credit. On the other hand, with regard to capital installments, a prolongation of payments for a period longer than now, while extending the grace period, would be desirable.

As for postponing payment obligations on guaranteed loans, it seems more realistic to renew the suspended negotiations with Paris Club. As a result we can expect a prolongation of payments both on capital installment and on interest for the period 1982-1985.

The Goal--Total Solution

One of the solutions to the debt problem mentioned earlier is an agreement with the creditors on a moratorium. The borrower country declares its inability to pay its debts within the time period on the conditions agreed upon. On this basis it obtains the creditors' acceptance of a deferral of the obligations and, as a rule, also for a change of the conditions. This solution, however, eliminates the possibility of obtaining new loans. Moreover--apart from the fact that negotiating such a solution would be difficult at present--its serious drawback is a considerable increase in the debt during the grace period and high payments after it.

It seems to me that an advantageous solution to Poland's debt problem in the future would be to apply the total solution. Due to the enormous increase in

the debt of developing countries and the growing number of countries unable to meet the debt deadlines or the debt service, efforts at elaborating such a solution are under way. In the case of Poland, however, it is a long term question, which will depend on the acceleration of the development of East-West economic relations and improvement in the political climate.

12270

CSO: 2600/18

PZPR SECRETARY VIEWS ANTI-INFLATION PROGRAM, OTHER ISSUES

PM181342 Szczecin GLOS SZCZECINSKI in Polish 26 Sep 83 p 3

[Unattributed abridged account of speech delivered by Monfred Gorywoda, PZPR Central Committee secretary and deputy chairman of the Central Committee Economic Reform and Policy Commission, at 23 September Szczecin Voivodship Committee plenum: "Fight Against Inflation Is the Party's Main Task"]

[Text] The PZPR Central Committee secretary began his speech with the following statement:

Economic difficulties continue to influence, to an ever increasing extent, the entire socioeconomic situation in the country and they will also affect to an equally increasing extent the rate of normalization of life in Poland. Hence the great importance of the topic we are discussing here at the Szczecin PZPR Voivodship Committee Plenum: a search for increasingly effective methods for the voivodship party organization's work in the economic sphere.

Where are we as regards our economy, at which stage of the implementation of the program of the Ninth PZPR Congress? It can be said that we have noted the start of an unmistakable ascent from the bottom over the past 8 months of this year.

What are the positive and the negative signs of the state of our economy?

One of the positive signs is undoubtedly the clearly noticeable dynamic rise in our production figures, especially in industrial production. On the scale of the whole country this is rated at eight points, and is still higher for the Szczecin Voivodship, for which the latter deserves praise. A negative sign in our production is that of incorrect production structure, especially with regard to marketable products and in relation to market requirements and the needs of the population.

We note a distinct acceleration in the pace of the housing construction industry, but at the same time there is insufficient, in fact negligible progress in the field of capital investment in industry, owing to the continuing low effectiveness of capital investments and the excessively expanded range of capital industrial investments.

It must, however, be stated that the generally favorable production results have made it possible to reach our main target, that is, putting a check on the fall in average real wages. It is anticipated that on a yearly scale real wages will go up slightly. This will constitute the principal change in Poland. A negative sign, on the other hand, is the fact that incomes have gone up considerably higher than planned and this being accompanied by significant price rises. In effect, people are not really conscious of the check in the decline of real wages, or even of their slight rise, particularly in the face of specific market shortages that exist despite the improvement in supply to the market. A large number of articles are still in very short supply, particularly electrical goods and light industry products.

Among the positive signs in our economy we must include the continuing high rate of foreign trade turnover and its accompanying improvement in our balance of payments with regard both to the first payments area [socialist bloc currencies] and the second payments areas [Western currencies]. Today we have already achieved credit balance with the capitalist countries. As regards the socialist countries, the extent of our negative balance of payments is continuously decreasing, although we still have considerable obligations there, mainly toward the Soviet Union, on account of the credits we have been offered.

What developments await us in the immediate future? In his answer to this question the speaker stated, among other things, the following:

There are reasons for expecting that it may be possible to maintain the rising production trend over the fourth quarter of this year and the whole of 1984: This question is crucial in our economic affairs. We do not anticipate any major upheavals concerning supply to the market. It will, however, be essential to achieve much better results in effective use of raw and other materials. This year our savings in this field will amount to less than one-half percent. It is estimated that if next year we want to achieve a rate of production increase within the range of 5 percent, then 2.5 percent of that must be accounted for by savings in raw and other materials.

Next the Central Committee secretary referred to the question of Poland's foreign debts. He said inter alia:

We can anticipate that in the first half of 1984 talks will start on rescheduling our foreign debts. As we all know, talks are already taking place with private Western banks--and these talks are quite difficult. One-half of our debts is with these banks and the other half, or even slightly more, is with the Western governments. So far there have been no talks with those governments because the restrictions introduced by Western circles caused the earlier talks to be suspended. Now the Western side has expressed its agreement as to their resumption. The negotiations will undoubtedly be difficult and we should expect attempts at some pressure being exercised with the use of both economic and political levers. Our guideline in the question of settling the matter of our debts is--as ever--provided by the resolutions of the 10th Plenum, and consists in finding a solution which would give us a little so-called breathing space over a longer period of time without causing any unfavorable consequences for the level of living standard in Poland.

The next subject discussed by the speaker concerned our market situation.

There should be no major difficulties with the supply of goods to the market, either in the immediate future or throughout 1984. In fact, there should be a clearly perceptible improvement in this area, especially with regard to electrical goods and light industry products. On the other hand, a considerable problem can be expected to arise toward the end of the first and over the beginning of the second quarter of next year. This will be caused by the results--harmful to the market situation--of the decline in meat procurement, which caused in turn by the crisis in our stockraising industry. Our greatest efforts must therefore be directed toward increasing the production of meat--including broilers--and planning for a rational distribution system for the meat and meat-based products which we will have at our disposal. The main task in preparing that plan is to prevent any reduction of meat rations in the existing rationing system.

Next the speaker discussed--at some length--problems concerning the anti-inflation and austerity programs, referring to the debate which had taken place at the voivodship committee plenum. The programs in question aim at speeding up positive processes taking place in the population's mentality and its way of thinking ahead and considering the future, especially as there is insufficient awareness of the conditions and circumstances under which we are managing our economy: It is insufficient both throughout our society as a whole and, all too often, among the leading cadres responsible for our economy. We have obvious proof of this situation in the constantly recurring complaints about "inadequate supply to the market, insufficient imports, insufficient capital investment undertakings, and the inadequate supply of manpower." But we know that the conditions prevalent in the 1980's entail shortages in all the above-mentioned production factors. For example, there will be no rise in the supply of manpower--apart from certain essential cases--both because of our population structure and also because of available working time, the latter having decreased by 12 percent as a result of free Saturdays, the early retirement option, long maternity leave and other recent social welfare moves. As regards the proportions of our capital investment outlays, we cannot increase them at the expense of consumption: The deciding factor here is the distribution of national income. In other words, the possibility does not exist of returning to the extensive ways of development which took place in the 1970's.

Winding up his speech, the Central Committee secretary said: "Fighting inflation is a fundamental factor in the task of repairing our economy on a general scale. This goal must be served by the solutions and mechanisms introduced in the economic reform. It is, however, necessary to remember that the reform only provides the conditions, and that whether we take advantage of these conditions will depend on how effective people's work and attitudes are."

The Central Committee secretary expressed his conviction that the Szczecin voivodship party organization will continue to demonstrate its usual active stance through its members' work and attitudes. This belief is based on the evidence of both the course of the debate and the resolutions adopted at the voivodship committee's plenary session.

CSO: 2600/114

NEW SCIENTIFIC-TECHNICAL EXPORT OFFICE ESTABLISHED

Warsaw RYNKI ZAGRANICZNE in Polish 6 Sep 83 p 8

[Interview with Jerzy Myszka, D.Sc. (Eng.), Director of Katowice Foreign Trade Agency, Zorpot, by Andrzej Taranczewski: "Polish Foreign Trade: Export of Scientific and Technical Results"; date and place not specified]

[Text] Today we introduce to our readers a newly formed office of foreign trade, Zorpot, in Katowice, created for export of Polish scientific results and technical services. Our representative talks to the director of the new office, Dr. Jerzy Myszka.

[Question] Would you like to explain to our readers the name of your agency and describe its origins and the purpose for its creation?

[Answer] Certainly. Our office is an agency of the Society of Polish Mechanical Engineers and Technicians located at Katowice. It was created in January 1983 on the basis of a concession granted by the Ministry of Foreign Trade to export scientific and technical results and also perform the necessary import of materials and tools as required by the needs of export to countries of the second payments sphere. This decision of the ministry was passed on after a broad discussion and realization of the need for this type of activity to be undertaken by a special agency, because in our work we largely lead in the signing of contracts with foreign trade centers.

[Question] So what is the scope of your work?

[Answer] Generally, we export economic counseling services, the results of technical and economic studies and reports, expert technical examinations and recommendations, tests and research, machine and equipment designs, applications of scientific results for industrial practice, services to bring into operation industrial enterprises and production sections, technological licenses, technical inspection and supervision, scientific and technical results (including patents, licenses and educational services).

[Question] This is a broad program. How do you expect to cope with it with your small staff?

[Answer] The authority over independent trade activity by Zorpot should be taken in the sense that the office will function as an exporter for all scientific and technical societies belonging to the Main Federation of Technical Organizations. In creating the structure of the office, we took into consideration the findings of critical evaluation of organizational structure of existing foreign trade agencies. As a result, the role of the trade agent has been changed. It is to be based on a broad involvement of the staff of organizations producing services for export with the actual trade matters. Our office is an organizational unit based on economic self-sufficiency. Taking into consideration the financial and organizational needs of particular foreign trade activities, this calls for properly coordinated service of trade contracts and evaluation of the costs and effects of export work. The broad involvement of export producers helps utilize creative initiatives in export. This is an idea of managing activities through teams set up to perform technical and organizational operations of a nonstandard nature. Each such activity is basically unique, and after the objective is met within a certain time period and the project is completed, the group will be disbanded. This idea arose as a concept for surmounting the lack of flexibility and preponderance of red tape typical of economic management agencies. Operating in a variable and variagated environment, Zorpot should be a dynamic and innovative agency without detriment to efficiency and success.

[Question] What opportunities are opened to our society by this concession?

[Answer] First of all, it allows one to use, for the needs of export, creative dynamic groups which have initiative, but, in the framework of management of existing foreign trade centers, could never reach the level of export of their services. Thanks to this concession, these creative outfits now have their own agency where they can develop their enterprising initiatives in a structured manner. It is important that the individuals who will be working within the scope of our office be free of their parent enterprises (which commonly push the export of their own products) and thus will have more leeway for accommodating clients' needs. One can thus say that they represent to a greater degree their branch of expertise, rather than the interests of the institute with which they are affiliated.

Secondly, the agency will facilitate the foreign contacts for member societies. Foreign cooperation provides excellent opportunities for creating cooperative projects and joint groups. Cooperation with foreign countries and foreign groups is useful in surmounting otherwise stringent export barriers and in providing better opportunities in the struggle for market outlets.

Thirdly, it creates the conditions for utilizing for the needs of export the reserves of knowledge accumulated over years of work within the organizational structures of the member societies. This concerns, above all, the scientific and technical sections and economic agencies.

Fourth, and finally, are the chances it provides for involvement and management of export activities of scientific and technical societies.

One example is cooperation with the boards and committees of experts of scientific and technical associations, a process already under way. In this manner, the new concession brings the technical societies closer to matters of foreign trade, helping them to find their export specialties which until now might have remained out of sight.

[Question] How, then, does your office plan to be successful in foreign markets? Have you already developed a concept?

[Answer] Gaining foreign markets with a lack of traditions and recommendations is difficult. In the first stage of its activities, our office will be helped by existing foreign trade agencies. Eventually, however, we expect to develop our own marketing network. Some of our hopes are connected with membership in the Polish Chamber of Foreign Trade and the Polish-Polonia Chamber of Commerce and Industry, Inter-Polcom.

Foreigners who have graduated from Polish universities may be helpful in developing foreign trade contacts, although this opportunity has been overlooked in the past. Mainly these are individuals of stature within their countries, and because of their knowledge of the language, the country and its economy, they can be conduits for our interests. First attempts in this area suggest that this is an enormous promotional and acquisitional potential.

Importantly, Poland has favorable conditions for trade with developing nations; it has never been a colonial power. In a relatively short time, it has become an industrialized nation--that is, it has passed along the road these nations are just beginning to traverse.

[Question] Certainly, the graduates of Polish universities are an interesting new resource concept. Now, if we tried to sum up the results achieved by the office in this short time...

[Answer] We could say that the first months of its existence confirm that granting the concession to the association and adopting the principles put forward earlier comprise a step in the right direction and bodes well for the future. We have received various proposals from the members of societies, enterprises and private individuals and forwarded these proposals to prospective clients, markets and trade networks. A number of important enterprises and institutions have asked us to sign contracts empowering Zorpot to represent their interests in the export of technical results and services.

First contracts have been signed with Swiss and FRG companies. In the near future more contracts will be negotiated. Our agency plans to be an active participant at exhibitions, seminars and fairs, both domestic and foreign. We are preparing comprehensive promotional and advertisement materials, references and other materials that will help us with forwarding company publications to prospective clients.

[Question] Can one really speak of references after such a brief time?

[Answer] Representatives of the Society of Polish Mechanical Engineers have completed quite a few projects under foreign contracts. I will mention just a few of those which I believe to be most important:

- a study of the building of a mining equipment factory for the Sonarem Company and technical consultations for the Sonelgaz Company in Algeria;
- nondestructive tests of pipelines for Omnitest in the FRG;
- technical consultations with Engico, an Italian firm in Libya;
- design plans and specifications of technical equipment for a power and control station of rolling mill for the Sket company;
- design plans and specifications for a machine for ingot stripping for the Sket company;
- design documentation of soundproof shields for fast-speed spindles and design documentation for cable machines for Sket;
- design plans and specifications for a power station for tractors and agricultural machines and design documentation for equipment for tractors for the firm VEB Traktorenwerk;
- design of organization of assembly for pumping stations for PW Schwedt;
- technological process design for aircraft parts from Pratt-Whitney in Canada;
- process technology for insulation of seawater collectors on the Rhodes Island in Greece;
- expert examination of coal mining machines in the Jerrada Mine in Morocco;
- expert examination of cranes in a cast iron workshop for Swindell-Dressler (United States); and
- training of technical inspectors for companies in 14 countries.

I want to stress that having a concession does not mean neglecting export through the medium of foreign trade enterprises, but, on the contrary, whenever this cooperation can be profitable for both sides, export through these enterprises will be promoted. We proceed from the premise that the export of technological ideas always comes before the sale of producer goods, and the services of an export specialist are valuable for future development of exports, which meets the interests of foreign trade enterprises.

[Question] This certainly makes sense. Let us now once again remind readers of your address:

Office of Foreign Trade, Zorpot, Poniatowski Street 14, 40-055 Katowice; telephone 571-527, 513-301, 519-121; telex 0315396 orpt pl.

I wish you good luck in the promotion of Polish exports, and thank you for the interview.

KATOWICE DAILY RATES 1984 CHANGES IN TAX, DEPRECIATION ALLOWANCE RATES

Katowice DZIENNIK ZACHODNI in Polish 4 Oct 83 p 3

[Article by Teresa Sojkowa]

[Text] Whatever your involvement in the economic reform now underway may be, sooner or later you will ask yourself, of what use is it for me? How will I benefit from it? Looking back, you may find that the reform has so far brought a slight recovery on the consumer market, a slight improvement in work organization at factories, and slightly higher wages. So much for the good news. The bad news, which however is due to the crisis rather than to the reform's effects, is that inflation has been soaring, with price increases as the most painful consequence of this.

Government proposals for modifying some of the reform's provisions in 1984 are designed precisely to stall inflation, bar unwarranted price hikes, and compel producers to cut costs in real, not nominal, terms. These changes, then, appear to be designed primarily to relieve consumers of the present cost burden they have to bear for inefficient economic management of factories. But, are they?

They are, but not only this. It is a mistake to forget that if the modified reform mechanisms are to be efficient, they must not only yield immediate benefits to enterprises in the form of profit for redistribution, but also benefits ensuring future development. In other words, producers have a right, as well as a duty, to ponder what benefits will result for them from the proposed reform modifications.

Honest Profit

I believe enterprise managers have been relieved to hear that the government intends to supersede the progressive income tax by some other device. Progressive income tax was among the most criticized mechanisms in the reform. Most people agreed that this tax stymies efforts to boost productivity, increase output, and, ultimately, enhance profits.

Instead, this tax necessitated a system of various rebates and allowances, which in turn tempted many enterprise managers to seek ways of benefiting from it as much as possible.

The proposed substitute, a linear tax on fixed capital, has not yet been presented in its final shape. Yet it is already known that enterprises which put their machinery to productive use will fare better with the part of this tax which refers to an enterprise's capital utilization than enterprises allowing their machines to stand idle. The other part of this proposed tax is simply a proportional tax burden for every enterprise, whatever its profits, and always by the same percentage. This will relieve enterprises from the tax axe scare, and they will see that it pays to multiply their profits. Needless to say, they must not be allowed to do this at the expense of consumers. But this, too, will be taken care of by the above-mentioned proposed modifications.

Doing Business On Ideas

The government makes no bones about the fact that Poland is facing a danger of near-total capital depreciation and a general industrial degradation. Machines as well as technologies are wearing out. Not enough money is at hand for Poland to buy as many machines and licenses as are needed for replacing and renewing Poland's industrial potential. Monitoring the efforts of those who, by virtue of their training or posts, are obliged to push technology forward has now become a major task.

Technical progress in Poland has too often been only words. Now it is to become no less than an economic category. Technical progress is expected to help increase output, cut material consumption, save on labor costs and boost productivity. Each of these categories are now easy to express in accurate value terms and to compare to equally easily drafted cost-balance sheets.

The time and the opportunity have come for inventors, for ingenious people to come up with major or minor innovations in various fields. But practical implementation of their ideas must be viewed not only as evidence of our inventive skills, but also as opportunities to "do business with ideas." The authors of the reform's modifications say the new economic system furnishes good conditions for technical progress precisely in this sense.

Half and Half

A new system of depreciation charge allocation is another proposed modification. Enterprise managers have always dreamed of keeping all depreciation charges in their own hands to assign this money for investment and modernization. This would be simpler, but not quite fair. When the state treasury has no inflow of resources for credits, who should bear responsibility for investment expenditures? Should this be done by an enterprise which has the money? Or by one which badly needs to invest, has good prospects for selling its products, but has no funds for this?

The proposed modification tries to save the sheep and to make the wolf happy. Depreciation is now to be divided equally between enterprises and the state. However, the authors of this modification know the situation of some industries well and so provide for many exceptions to this rule. Some enterprises may, therefore, get as much as 80 percent, or even 100 percent, of their depreciation funds for their own disposal. Estimates have disclosed that in fact no more than 35 percent of depreciation value will eventually reach the treasury, which transfer it to banks for financing credits. So, in a somewhat roundabout way, this money will go back to enterprises anyway, at least to those most in need of expansion or modernization, if their output is a precondition for other industries' operations, above all for improving consumer and export goods production.

AUDIT HITS LOCAL GOVERNMENTS FOR HOUSING CONSTRUCTION MISMANAGEMENT

Warsaw RADA NARODOWA GOSPODARKA ADMINISTRACJA in Polish No 16, 8 Aug 83
pp 27-28, 33

[Article by Wacław Lubiarz: "Housing Construction: How and From What? Through the Prism of Control"; passages in slantlines printed in boldface]

[Text] The inspection of the realization of construction goals adopted for 1981-82 demonstrated unequivocally that, compared with the previous years, the situation has worsened. Some enterprises fulfilled only 50-70 percent of their yearly goals. This caused a lengthening of the period of waiting for an apartment. In the majority of the cooperatives this period lasted from 10-12 years, and in some it even reached 15 years.

The delays in the construction of accompanying structures--shopping and service centers, health services outlets, schools, kindergartens, etc.--were even greater than those observed in the housing industry. As a result, many large developments provided almost no services. For example, in one provincial capital, a new housing development, with 20,000 inhabitants, did not have a single school. In other similar developments, basic shopping and service centers were missing, etc.

/Understandably provincial authorities responsible for the construction industry, as well as the construction companies themselves, try to explain this situation by various objective factors. This does not always correspond to the truth, although many of these factors are indeed not under the control of these authorities. It is true that their power and the means at their disposal are not at all sufficient. But it is also true that the power and means they do have are not fully and rationally utilized./

Inspections have shown that the main causes of the incomplete fulfillment of construction goals are: a lack of executive discipline, general organizational disorder, and occasionally also great liberties taken by the builders. These irregularities manifest themselves in differing degrees in the individual provinces.

What Are Contracts For?

During the inspection, several hundred contracts were checked with respect to the realization of tasks in the agreed-upon time period. Unfortunately, time limits are not adhered to. A majority of buildings are made available for occupancy with significant delays which reach 2 or even 3 years in housing construction, and are even longer in subsidiary construction. In some enterprises /constant breaking of contract deadlines has already become a peculiar habit./ Time limits adopted in contracts for the completion of specific tasks were adopted, above all, on the basis of obligatory norms, and not on the grounds of real productive capabilities of individual enterprises. As a result, deadlines specified in the contracts were from the very beginning treated as non-obligatory, and subject to discretionary changes.

It is encouraging that after the introduction of new economic principles (the T S's) the situation improved slowly. Contracts are entered into more carefully but, unfortunately, production cycles have been significantly extended. This is an unfavorable phenomenon, but the investors, usually cooperatives, have no other choice than to agree to these extended deadlines, as well as to all changes in the original contract time limits suggested by the builders.

Quite numerous examples of tardy negotiation of contracts for construction constitute another manifestation of the lack of executive discipline. For example, during the second half of 1982, numerous housing cooperatives still had no signed contracts for construction which was to have begun in 1982.

/Insufficient coordination of work with subcontractors, and even within enterprises, is a rather important reason for the unsatisfactory results achieved in the building industry./ Observations made during systemic inspections demonstrate that this is handled better by multi-profile enterprises, which themselves execute a majority of specialized tasks at the construction site.

As a result of the lack of coordination, an overwhelming majority of the managers of construction sites have no up-to-date timetables which would have been negotiated among all the interested parties. Some managers of building sites and directors of enterprises even show a disdain for such timetables.

Quite often, meager construction results also stem from /improper supervision over the planning and preparation of investments and over their realization on the level of enterprises, cooperatives, as well as the organs of state administration./ In certain provinces, the analysis of documents used by provincial institutions and enterprises reveals large discrepancies between the data used in planning and the data used in realization of investment projects. There were cases when the local authorities and cooperatives did not even know what the assumptions of the provincial plan were.

In some cases, the housing industry is negatively influenced by /too frequent and not always justified changes of builders /which result in changes in the technology and documentation and cause increases in costs and the postponement of completion deadlines.

A Close-up of a Construction Firm.

In a large number of enterprises one can observe a delayed start and an early end of work. This applies not just to individual workers, but to entire crews. As a rule, work ends early, even 20-30 minutes early, so that workers can wash up, change and be ready to leave at the assigned quitting time or earlier. On some construction sites extensive waste of time was observed. For example, as a result of a bad organization of the "consumption of regenerative nourishment" at several large construction sites employing several hundred workers, breaks in work lasted for as long as 2 hours every day. This is almost one-fourth of the work day, and does not include time wasted because of tardiness, early departures or other breaks. There were many cases when the worker at the end of his work day could not show what he had accomplished during the day, and was unable to say what tasks for the day were assigned to him by his supervisors.

Many construction firms complain about a significant shortage of workers. This is incomprehensible given the overemployment in administration, which reaches as high as 20-25 percent of all those employed. For example, it was ascertained that in one case the number of those employed in administration accounts for 40 percent of all those employed by the firm. Despite the fact that everybody knew about it and criticized it, there was no reaction from the local sponsoring agency.

Speaking of the shortages of workers in the enterprises, it is impossible to ignore the conditions in which they work. They are very bad, and sometimes simply criminal. It is known that a lot of money is spent for the creation of permanent or mobile subsidiary structures at construction sites. Unfortunately, this does not seem to produce any results and constitutes yet another form of waste. After only a short period of use, these subsidiary structures are in very bad shape. This is manifested by the lack of furnishings and kitchen appliances, by non-functioning sanitary installations, dirt, and general disorder.

Specialized Does Not Mean "For Everything"

In almost every province there were complaints about the lack of a sufficient number of construction enterprises, especially those which do specialized work. This complaint does have its merits, especially in the provinces created in 1975. It is, however, impossible not to notice the fact that /the utilization of specialized enterprises for the basic tasks in a given province is not as good as it should be./

It was ascertained that part of the potential of these enterprises is utilized in the construction of large administrative buildings. In order to circumvent existing prohibitions, such buildings are constructed under

false auspices, and with the money designated for, for example, communal cultural centers. In one locality, such a "Communal Cultural Center," with a cubic capacity of approximately 9,000 cubic meters, was to be used entirely for various political and administrative gain institutions. Obviously, the building would probably also house a library and a communal club. But one cannot avoid the question of whether this is socially proper, given the almost universal shortage of housing for doctors, teachers, and other workers.

In certain provinces, /the manner of utilization of agricultural construction enterprises/ appears questionable. Many houses, whose purpose cannot be explained by anybody, even the investors, are being built in some State Farms [PCR]. For example, in one PCR, 48 apartments were built, even though the needs, recounted from memory since there was no documentation of any kind, accounted for only 8 apartments. The directors of these PCR's did not seem concerned as they explained that someone will certainly be found for these buildings, that maybe some retired people who occupy needed apartments in other localities will want to move in, etc.

In some PCR's not only single family houses, but garages are being built. It is worth mentioning that the cubature of such a "single family" house with a garage and the service buildings sometimes reaches 1220 cubic meters. This brings a question of whether we can afford such luxuries when, at the same time, in other localities, mainly in cities, people wait more than 10 years for an apartment.

In the generally difficult employment situation, some enterprises decided to use the help of those who are awaiting apartments--patronage construction. Unfortunately, too often this form of construction was used for the dishonest "circumvention" of regulations. There were cases when enterprises, together with cooperatives and with the local authorities, organized patronage, built houses, and divided them among the members of this "patronage group," without demanding any of the personal work on which this form of construction is based. It was ascertained that quite often apartments were given to young single people already living in good housing conditions, for example, with parents living in the same locality. Quite often--ironically--these people received membership in a cooperative on the same day on which they received an order of allocation for the apartment. Such "deals" are obviously noticed by people who wait years for their apartments. It is strange that the provincial authorities "did not know."

Uneconomical Management as a Significant Cause of the Shortage of Building Materials

Shortages of materials have a significant influence on the ability to complete construction on time. Explanations which blame these shortages on objective factors, dependent mainly on supervisors, cannot be always accepted. A significant part of these shortages is caused by improper activities on the part of many organs, mostly local. It was quite common for orders not to be sent out at the designated time and place.

In the majority of inspected provinces, /the lack of any operational programs, whose goal it would be to produce building materials from local raw materials is most objectionable. This refers above all to bricks, whose permanent shortage significantly slows down the development of individual construction projects, which are usually accomplished by traditional methods.

Despite the fact that in many regions of the country one can still find idle brickyards, which sometimes are even fully operational, the actions of the authorities aimed at re-opening such brickyards are rather sluggish. This is caused by a variety of factors, most often by an insufficient knowledge about both the local needs and the local supplies.

As a result of studies conducted in several provinces it was ascertained that /the productive capacities of enterprises subordinated to the building ceramics firms are also not fully exploited./ It was also discovered that these enterprises are usually quite outmoded, both technologically and economically. Most of them work only on a single shift and only during the summer. This is why a number of building ceramics plants do not manage to fulfill their production plans.

For example, one of the inspected enterprises managed, over a period of just 10 months, not to produce 10 million previously planned ceramic units. The shortage of building materials is also worsened by the unacceptable quality of ceramics produced by some enterprises. This does not apply only to old plants. Too often it refers also to new plants, which are highly efficient. In some of them ceramic materials fall apart before they even leave the plant, not to mention what is going on at construction sites. This can be illustrated by a fragment of one record of losses.

It reads: "A commission composed of...ascertained that...in the chambers of kiln no...there was an excessive amount of technological waste. After... the bricks have been counted...it transpired that 13,000 pieces of brick shattered. The commission has also ascertained that the rubble resulted from the fact that overly wet brick was placed in the kiln, since the plant lacks sufficient heating, given the failure of two boilers..."

A similar phenomenon of putting insufficiently dried large ceramic blocks into kilns was found in one of the new plants, where continuous production yields 18,000 of these blocks a day. In this plant, heated by gas, approximately 20 percent of production falls apart. The newsreel showed this phenomenon in 1982. Despite various losses, the plant does not hold any procedures aimed at explaining the situation. In one of the enterprises, in order to avoid making a record--which I just quoted--a letter was sent to all production plants recommending that all losses be accounted for individually, by each plant. The manufacture of such poor quality ceramic products is promoted also by the fact that a number of construction firms do not bother to lodge any complaints when they receive bad materials. Losses are included in the cost of construction, so that the enterprises "will come out all right," and the citizen will pay.

In many enterprises one can observe /extensive waste of materials, especially on construction sites/ and in the storage of materials left over after previously completed tasks. Occasionally, these are scarce materials which are difficult to come by. Despite this, usually neither the construction firms nor the local authorities notice any of this.

/The level of storage economics is relatively low/ in some of the enterprises. Quite often unnecessary materials or excessive quantities of materials are being stored, even though they are generally hard to acquire.

Observations conducted in many provinces demonstrate that /the allocation of scarce resources for the needs of single-family housing construction is not always appropriate./ Instead of concentrating allocations, which would allow for a rapid completion of the house under construction, the sale of materials is often done in quantities which allow neither for the start nor for the completion of construction. As a result, significant amounts of material lie on various building plots, while other people cannot finish their houses because of the lack of just these materials.

Analyzing the set of problems connected with construction, /it is impossible to ignore the quality of construction in apartment buildings./ In addition to the scarcity of apartments, this is yet another cause of complaints by those who had already received their apartments. Most complaints concern freezing walls and leaks in places where building materials have been joined. Observations and studies indicate that this is a result of faults in utilized technologies, and of negligence in execution, which involves lack of compliance with established criteria, both during the production of building materials and during their assembly. Such phenomena occur especially often in places where the quality control services of the producers, and the supervisory inspectors acting at the request of the investor, do not fulfill their responsibilities. In housing construction this concerns above all the supervision in cooperatives.

The shortcomings mentioned here were pointed out in every inspected province. There were attempts to make the authorities sensitive to these issues which could be resolved without additional expenses. I would like to note here with satisfaction that this action has begun to have some results. During inspections conducted in the second half of 1982, positive changes could be observed in some enterprises.

/There are many factors which slow down the development of the construction industry. I have limited myself to the demonstration of those which, to a large extent, are dependent on the actions of territorial organs of state administration./

1/495

OSO: 2600/42

LEGISLATOR SEES NO THREAT TO INTEGRITY OF WORKERS' COUNCILS

Warsaw RZECZPOSPOLITA in Polish 14 Sep 83 p 3

[Interview with Jozef Barecki, chairman of the Sejm Committee for Workers Self-Government, by Irena Scholl (Polish Workers' Agency)]

[Text] [Question] Could you describe the activity of the self-government of work forces, i.e., present something in the line of a business calling card which characterizes it?

[Answer] It is an important form of the broad self-government structure in Poland. The principle of socialist democracy is implemented within its substance; it expresses the subjective role of the workers' class.

The sphere of activity of the work force self-government is the state enterprise. The self-government takes part in managing and controlling it within the framework of authority specified by the law of 25 September 1981. There are over 6,500 such enterprises. Self-government functions normally in approximately 90 percent of them, i.e., it makes use of its legal powers.

Another common trait is that in all enterprises, self-government started to function nearly at the same time, with a minor difference in dates, as the economic reform.

[Question] That does not sound like a good thing. Self-government, the reform as well as trade unions--all are moving at a snail's pace.

[Answer] Why is it not good? Reform as it is being implemented in Poland must have widespread social support and it must be created in cooperation with the work forces themselves. It is self-government that makes decisions concerning production, it determines plans and can and should have an influence on employment related matters. In sharing profits, it decides at the same time what is currently of benefit to the work force and it also makes decisions concerning the future of the work force. In other words, without self-government there can be no reform. And because times are difficult, they compel one to learn quickly, to become active and to think in economical categories. In my opinion, this interconnection, this convergence of the rebirth of the idea of self-government with the necessity of carrying out reform, can be of benefit both to self-government and to reform.

[Question] There are those who feel that the law passed by the Sejm on the special legal regulations during the period of coming out of the crisis has limited the powers of self-government. Are they right?

[Answer] No, they are not right. Such a false interpretation of the decisions made by the Sejm is intended to inspire distrust among the work force and to impede the development of self-government. Perhaps another reason for such an interpretation is simply the lack of knowledge about the realities in which self-government originates and functions.

Let us look at the facts. The law on the special legal regulations states that the opposition of the enterprise organs, i.e., of the manager and the self-government, to the decision made by the founding organ does not prevent this decision from being implemented. There are temporary regulations, until 1959; therefore, they do not have the character of a permanent change in the appropriate entry of a law pertaining to self-government. There are regulations intended for the period of coming out of the crisis.

Let us take the first example at hand: production for agriculture. Everyone is for it, everyone criticizes industry for not producing that which agriculture needs. Therefore, it is possible to imagine a situation whereby the founding organ recommends to a group of enterprises a change in the product type and assortment while at the same time assuring raw materials, services, etc. And it is possible to further imagine that the enterprise organs, i.e., the managing director or the workers' council, express opposition to such a decision. The law of 25 September states that opposition hinders the implementation of a decision while the opposing sides have the opportunity to begin long-term appeal proceedings all the way up to and including a court trial.

This is a good formula to use during times when the economy is functioning under normal conditions, when production is determined by the consumer and by need as well as when the producer exerts effort to find a market for his goods. Today when the producer is lord, the state cannot count only on the goodwill of industry if it does not want its programs to remain only on paper.

Thus the reason for the temporary curtailment of the immediate effect of dissent. However, this does not mean that self-government is incapacitated. Self-government continues to have the right to express opposition and if it is not recognized, it has the right to take the controversy to court in accordance with the provisions of the law. The one and only concern here is for the right to dissent not to hinder the implementation of production decisions which are urgent and important from the point of view of social interests.

[Question] The critics of the law see a greater danger for self-government in the possibility of the suspension or dissolution of self-government.

[Answer] Indeed, this does sound threatening. However, even this matter must be assessed in close connection with the existing situation.

Preceding 13 December, the antisocialist forces intended to transform self-government into an organization which would serve to break up the state structures. Despite a totally different situation, they have not given up on this design to this day. We must talk about this openly and make self-government itself aware of this danger.

For this reason, a provision has been passed for an interim period which affirms the possibility of the suspension of self-government or its dissolution if it is going to act inconsistently with the law or if it disturbs social interests in an offensive manner.

We discussed this provision with a heavy heart; however, we acknowledged its social justifications. It must be stated clearly that there is no threat to anyone who acts within the framework outlined by law.

[Question] And what about social interests? Will this not give rise to free interpretations?

[Answer] In general, we are aware of what social interest is. It concerns enterprise activity and also its meaning for society. It cannot be assumed that if a workers' council possesses a legally guaranteed right to make decisions about the annual production plan, for example, it can do as it pleases. This would be anarchy. For this reason, the Sejm passed a motion at a session on 26 June that self-government is responsible for seeing that the activity of a given enterprise is in accordance with the aims of the National Socioeconomic Plan. And should a certain workers' council not want to comply with this requirement? Can this remain without consequences?

Where one has the right to make decisions, there must also be the consequence of responsibility.

[Question] And who is to enforce this responsibility? Self-government is independent of the administration while the administration, which also includes the founding organ, has acquired the right to make decisions in the matter of whether the self-government is to be or not.

[Answer] That is not true. First of all, the founding organ is not only administrative in nature. The law of 25 September 1981 endows this organ with extensive powers as a representative of the state, i.e., of our society as a whole in state enterprises. Secondly, the law, with regard to the special legal regulations for the period of coming out of the crisis, has appointed a committee within the State Council which will serve as an impartial arbitrator between self-government and the founding organ. Proposals for the dissolution of a self-government organ will be directed to it, should the need arise for the formulation of such a proposal, and only the State Council will make decisions in such matters after reviewing the arguments from all sides, including self-government.

We treat these regulations solely as preventive measures against attempts at leading self-government astray into activity which is contrary to the rules and the substance of self-government itself. I feel that there will be no

need to invoke these regulations. The activity of self-government thus far confirms the maturity of work forces and, as a rule, the wise use of rights to which they are entitled. At the very most, the decisions passed by the Sejm will have a restraining effect on all those who continue to dream of manipulating self-government and exploiting it for purposes which are contrary to its being.

[Question] We do know, however, that self-government can also be poisoned by bureaucracy.

[Answer] Of course, The functioning of self-government also depends on the attitude of the economic administration toward it. Polls as well as meetings with self-government activists frequently point out facts that indicate that plant management does not always respect the rules and rights of self-government, or has "avoided" them. Democracy is difficult and it is not easy to get used to its rules and regulations since they demand a different work style and cooperation from the work force. All partners must go through the lessons of democracy. Otherwise, discouragement and indifference will again set in toward common matters.

[Question] One hears concern that the rules regarding enterprises and self-government in the mining industry are slated to be "tailored" to the ministerial regulations. What does your committee have to say about this?

[Answer] Mines are closely connected to the power system--without coal there is no electricity or heat; the mining industry fulfills a role which carries the greatest social weight. For this reason, proposals of treating enterprises of the mining industry as public utility works are understandable. They belong to the same category of laws and regulations on self-government as ordinary state enterprises except that some self-government decisions, for example, those pertaining to mining programs or production, must be approved by the founding organ. This regulates the decree on the activity of self-government in public utility enterprises.

[Question] And what about conflicts between self-government and trade unions?

[Answer] You are most likely referring to conflicts which result from the various roles of self-government and trade unions. The former becomes a "collective employer" and will be concerned primarily with the interests of the enterprise, while the latter--with the interests of the work force.

Actually, it should not even come to a conflict. They are not needed. And if there are conflicting issues, then they ought to be solved in accordance with the interests of the work forces and the state and not according to the criterion of who is more important or who has more authority.

I feel that one worker understands another worker best and that in every specific disagreement, a self-government or a given trade union will simply win the logical arguments which they present.

BRIEFS

PROTOCOL WITH CONGO--Comrade Ludovic Fazekas, deputy prime minister of the government, received Henri Djombo, minister of water and forestry of the People's Republic of the Congo, on 10 October. During the ensuing talk, the two sides discussed expanding and diversifying economic and scientific-technical cooperation in the area of forestry exploitation and wood processing between the two countries. Ioan Florea, minister of wood processing and construction materials, and Henri Djombo "signed a protocol envisaging measures aimed at increasing bilateral cooperation at the area of wood manufacturing and processing!" The Congolese minister also had a talk with Ion Tesu, minister of agriculture and food industry. [Summary] [AU172016 Bucharest SCINTEIA in Romanian 11 Oct 83 p 3 AU]

TRADE PROTOCOL WITH POLAND--A protocol was signed in Bucharest on 10 October between the Ministry of Domestic Trade of the Socialist Republic of Romania and the Ministry of Domestic Trade and Services of the Polish People's Republic regarding consumer goods exchanges in 1984. [Text] [Bucharest SCINTEIA in Romanian 11 Oct 83 p 3 AU]

CEMA MACHINE-BUILDING SESSION--The 90th meeting of the CEMA Standing Commission for Cooperation in Machine-Building took place in Romania from 19-24 September. The meeting was attended by delegations from CEMA member-countries and the SFRY. The commission adopted proposals on multilaterally coordinating the long-term development of specialization in the production and production-sharing in the machine-building industry and agreed on the list of problems of cooperation over 1986-1990. [Excerpt] [Bucharest SCINTEIA in Romanian 25 Sep 83 p 5 AU]

CSO: 2700/21

DATA ON USE OF FOREIGN CREDITS GIVEN

Belgrade PRIVREDNI PREGLED in Serbo-Croatian 7 Sep 83 p 4

[Article: "Investment and Foreign Credits--Is Supplemental Accumulation Used Economically? Foreign Resources Are Almost Entirely Used for Economic Investments, or for Economic Development Needs"]

[Text] Where are foreign resources invested? This is a question which is often heard in discussions concerning the problem of our high indebtedness abroad. There have been several evaluations given, and positions reported. But if one must give a conclusive answer, one cannot avoid the conclusion that the use of supplemental accumulation up to now has not for the most part been economical and rational, nor socially appropriate in most cases.

All the attempts to find the correct answer have given almost no results up till now. This is because there is not enough exact data about how much of the foreign credits have been used for investment purposes in accordance with established priorities, or for strengthening the productive forces of those who have real prospects of increasing our participation in the currents of international exchange and division of labor on a more permanent basis. Missing in regard to production is what could be used to substitute for certain raw materials and materials of reproduction on a rational basis. In the absence of such information, which would be the result of basic research, we have used information of the Public Auditing Service concerning investments in process and their funding. The intention is to be able to point to distribution by sector of foreign credits being used within the total amount of funds provided for the financing of investment programs which are in the process of being realized.

According to the most recent data about sources provided for financing investment, credits from foreign banks and other foreign creditors amount to 212.7 billion dinars, which is 14.1 percent of all funds provided from all sources (a total of 1,511.8 billion dinars). Since it is not known in detail how much of this amount of foreign credits is being used effectively and beneficially, analysts have resorted to estimates. Thus, if the degree of use of these funds is identical to the degree of realization of these investments underway, which came to 55.7 percent of the value of the preliminary estimate at the end of March of this year, it follows that up to the end of the first 3-month period, 118 billion dinars of foreign credits were

being effectively utilized. Part of these credits were used for financing investment programs which began to be carried out during the last middle planning period from 1976 to 1980. In this period, foreign credits of about 125 billion dinars, or 62 percent of the total amount, were taken. Foreign credits for financing investment which had begun before 1976, and which were still in the phase of implementation, amounted to approximately 35 billion dinars. Thus, for the financing of investments which were begun in the last decade, there were about 160 billion dinars, or 80 percent of the current dinar value of the credits from foreign banks and other foreign creditors. For investment which was begun after 1980, approximately 42 billion dinars were used, or about one-fifth of the current value of foreign credits.

In recent months there has been a trend towards less use of foreign credits because of reduced number of new investment starts. Otherwise, one must say that during recent years for the most part resources have been used for investment projects which are located in the economically developed republics and the province of Vojvodina. A significant amount of funds are being used for construction projects in Serbia and the economically undeveloped republics--except Bosnia-Herzegovina--and Kosovo has above average utilization of foreign credits. Regarding the purposes for foreign credits, they are almost entirely used for economic investment, or for the needs of economic development. Foreign credits make up on average 16.4 percent of the total resources provided for business investment. The majority of foreign credits are intended for investment projects in industry and mining, then communication and transportation, as well as waterpower engineering.

9548

CS0: 2800/478

RESULTS OF ECONOMIC DILEMMA DISCUSSED

Zagreb DANAS in Serbo-Croatian 30 Aug 83 pp 19-20

[Article by Djuro Zagorac: "From a Clear Picture to a Caricature"]

[Text] The real personal incomes of those employed in the Yugoslav economy are 9 percent lower for the first 6 months of this year in comparison with the same period last year. In practice, this is the only key assumption of this year's (unrealistic) resolution that is being completely fulfilled. What contributed to this--the conscience of the employees, their willingness for self-sacrifice, or was it only imposed by virtue of agreements and understandings on distribution? It is not easy to arrive at the truth here. It seems, however, that a reliable mechanism has now been established in this area, which is not the case with the other forms of expenditure, which make it possible for division to continue to be made without being earned. Just in the first 6 months of this year, about 56 billion unearned dollars were "distributed."

The social accounting service compiled a balance sheet of the work and business of the socialized sector of the economy for the first half of the year. Different pictures are projected from the total of the various data, from crystal-clear photographs to caricatures. In the first 6 months the economy increased receipts by 36.4 percent and income by 33.9 percent in comparison with the same period in 1982. If we could judge ourselves only by these two indices, we could be more than satisfied with this year's work and business. But when we oppose these figures to business expenses, which grew by 37.6 percent of the volume of production, which is at last year's level, and also to inflation, we obtain a new dark picture, from which it can be seen that receipts were increased through increased prices, and that the real financial results are even declining. The most disturbing thing is that this year as well there are no results from efficient operation, and increased production and labor productivity.

An Erroneous Idea

The shortages of many products on the domestic market, as well as the constant demands for an increase in prices, are explained by many people as a result of the expansion of our exports this year. We do not have enough goods because we are exporting them. It is now known for certain that this

is not true. In the first 6 months our exports were one index point lower than during last year's 6-month period; the only good thing is that there was a restructuring of our exports. Specifically, exports to the convertible area were increased by 13 percent, which is 7 percent less than planned, but still has significance, since our obligations in this area, for debt repayment, are the highest.

Somewhat less than 30,000 OOURs [basic organizations of associated labor] achieved total receipts of 5.7 billion dinars. Of all these millions, only 8 percent were earned by selling goods on the international market, i.e. by exports. All of the rest was obtained through sales on the domestic market. This fact is extremely disturbing, and obviously dramatizes the claims and belief that our domestic market has been impoverished because of increased exports. Five years ago, when our foreign liabilities were much lower, our exports had a 10 percent share in the total receipts of the economy. Informed people claimed even then that this was a low rate, that it should not be lower than 12 percent, and that if we want to be independent from foreign countries exports have to have an 18 to 20 percent share in total income. The issue of exports, increasing goods for export, and continuing to do so next year remains one of the most issues in our further development. Exporting is still being done out of necessity.

What is the real reason for this--our economy's inability to meet the requirements of the world market? Insufficient incentives for exporters, or our lack of organization? These are questions that have been discussed for a long time, on different sides. It was believed that the exchange rate of the dinar, which was unrealistic for years, was the main barrier. This year the situation changed, but the results thus far indicate that not even this policy is sufficient to orient the economy toward the world market to a more significant extent.

It seems that our main problem is that we neglect goods that can be easily exported and from which money can be earned. Another problem in our exports is prices. As long as everything produced can be sold on the domestic market at the price the producer wants, one cannot expect changes or an orientation toward exports. Without a suitable production and a curbing of inflation on the domestic market, a realistic exchange rate for the dinar cannot resolve exports by itself. It seems that the first half of the year and the business results are the best proof that we have to go into the next year with different "rules of the game."

A New Deception

This year's resolution provided for relief of the economy and for the obligation of leaving more funds for it. According to the resolution, this year this remainder was to be increased by 2 percent, with 63.4 percent being left for the economy. What are the trends in distribution like for the first 6 months?

Not only was what was agreed upon not carried out, but there was also a further impoverishment of the economy; its share in the income earned fell from

61.4 to 59 percent. Can this injustice be avoided in the second half of the year, and can what was agreed upon be fulfilled?

At one time it was claimed that in the distribution of the income earned, 70 percent should be left to the economy, with the remaining 30 percent being set aside from it. It is felt that it is only with such a ratio in the distribution that the economy can breathe freely, have its own working and other capital, and not depend on outside expensive bank funds. In the last 5 years we have gone further and further away from this ideal distribution, and we are pressuring and impoverishing the economy more and more. With the trends to date and the rights established for the users of funds outside the economy, it is not difficult even now to predict that what was agreed upon will not be fulfilled, and that the liabilities will not be reduced in this second half of the year.

In any case, in regard to this overall social redistribution of income, let us also mention this: In the resolution for next year, which is being hastily composed and recomposed, the planners have provided for the relief of the economy by an entire 4 percent, not counting the 2 percent for this year. The recipients outside the economy would give up 2 percent in favor of the economy, and 2 percent would be ensured by the economy itself, from its own internal reserves. If the wishes of the planners were carried out, the distribution ratio next year would be 67:33 in favor of the economy. This will remain in the realm of wishes and dreams, however.

The tortures being endured by the economy can be seen from this distribution. Lacking funds of its own, it is forced to make use of outside bank funds. In connection with this the position of the economy has deteriorated tremendously this year, and it will be even worse next year.

Accumulation for Interest

The amount set aside by the economy for "other purposes" increased by 68.4 percent in the first half of the year; this was predominantly from increased interest rates for bank loans. The economy set aside 67 billion dinars in connection with the higher interest rates, i.e. 80 percent more than in the same period last year. The economy has to set aside almost the entire accumulation it earns in order to settle new credit liabilities.

It is already clear that bank loans will become even more expensive next year, since the banks have already decided to increase interest rates on citizens' savings deposits. In this game there are those who think that only the citizens are gaining, the ones who have dinar and foreign exchange savings. They say that this is only a new impoverishment of the socialized sector, a pouring of social capital into private pockets, through interest rates and differences in exchange rates. Should this "game," the economic policy on interest rates, be changed, and should interest rates and the real exchange rate of the dinar be restored to realistic limits that are more bearable for the economy?

In the documents of the commission on economic stabilization, the commitments are clear: they insist on a realistic exchange rate for the dinar and on realistic interest rates. In the lengthy discussions that preceded the final determination, it was noted, among other things, that we have a shortage of capital for further development, and we have a million unemployed. In these circumstances capital has to become more expensive in order for investments to be made more responsibly and efficiently at the same time, in order for economic entities to turn to their own accumulation, and for past labor to be protected through interest rates....

It therefore turns out that the bankers are only following the documents of the stabilization commission, and that there has been no deviation on this.

Serious Mistakes

On the basis of the above, one could receive the impression that associated labor is helpless, and that about 30,000 OOURs are not responsible for the work and business balance that we achieved in the first half of the year. That is not the case, however. The economy is not free from error either.

The data show that the funds spent in the first half year amount to 5.4 billion dinars and grew 1.2 index points faster than total earnings. The cost-effectiveness of operation has thus been reduced, and this is just within the economy. This disease has been with the OOURs for several years now, and is merely a proof that on the whole, the economy has not changed its behavior either. Instead of an increase in earnings, the opposite is occurring. And in connection with this the economy is becoming poorer.

Another smaller mistake on the economy's part is the use of the funds that it has available. The coefficient of working capital has fallen so much that it is disturbing. Two years ago the turnover period for funds averaged 153 days, from the purchase of the raw material to the collection of payment for the sale. Last year 157 days were needed for this, and in the first half of this year as much as 163 days. Economists and financial experts feel that the coefficient for the turnover of funds should be much higher, i.e. that money should be rotated in about 80 days.

Better Not to Work

The economy's losses in the first half of the year reached 4.5 billion dinars, 30 billion dinars more than in the same period last year. The number of OOURs with losses also increased, along with the number of their employees.

It is evident from the structure of the losses that a quarter of them occurred because of funds spent that were not replaced. It turns out therefore that many OOURs were not able to restore the invested funds through their production, and operated at a loss. It could even be concluded that it would have been better if they had not worked at all.

There is one more interesting truth with respect to the losers: they remained 34 billion dinars in debt to various creditors, because they did not earn enough income. If it had been the case that if there were no income there would not be any liability or debt to creditors, then losses incurred would have been cut in half.

Many incurred losses, and their accounts were frequently frozen, and because of the still unsettled ratio, linked to foreign exchange differences. In connection with this, those employed in industry and mining were put in the most difficult situation; a prominent example is the oil industry.

The economy's current losses are insignificant in comparison with the uncovered domestic liabilities already established. At one time we were operating with the fact that domestic debts had reached 1,500 billion dinars. According to Momcilo Tomic, the deputy director general of the SDK [Social Accounting Service], this figure is now known exactly, and amounts to 1,100 billion dinars. The Federal Executive Council drew up a program for re-scheduling these debts, but it will not be known until this fall whether the Assembly and its delegates will accept this.

What Next?

The Federal Executive Council and the SFKY Assembly have assumed the obligation of adopting as early as fall the resolution for next year, along with another 130 accompanying documents for its implementation. The planners are undergoing torments, composing and recomposing. The basic assumption of the new resolution is that it should be based on the principle of a "closed account." It would necessarily follow from this that one could no longer spend even a dinar if there were nothing to cover it; if domestic prices increase, the value of the dinar has to fall. All of this would be linked to production and earned income....

Individual members of the commission on stabilization have also become involved in the composition of the resolution, because it is desired that the already adopted stabilization commitments be incorporated in it and the accompanying documents as consistently as possible. The situation, however, is such that we cannot hope for anything better next year. Some of the "prohibitions," whose period of effectiveness is to expire this year, may only receive a different "packaging," without being rescinded. This includes, for example, the deposit for travel abroad. The economic situation because of which this was instituted has not changed or improved, and so its repeal cannot be expected.

[Following text in insert] Earnings

According to the trends achieved in the first half of the year, personal incomes nominally grew by 22 percent but declined by 10 percent in real terms. Personal incomes are thus not responsible for the failure to carry out the resolution; those employed in the economy strictly adhered to what was agreed.

In the first 6 months the average personal income in Yugoslavia was 14,292 dinars. The lowest average income was that of employees in the lumber industry, 12,061 dinars, and the highest was in pipeline transport, 21,695 dinars.

OPERATION, ROLE OF INTERNAL BANKS DISCUSSED

Belgrade PRIVREDNI PREGLED in Serbo-Croatian 10-12 Sep 83 p 4

[Article by Dr Lazar Majstorovic: "Great Expectation--Limited Results; the Specific Nature of Market Conditions Should Determine the Manner of Operation; Exposing Myths of Internal Turnover of Payments; Affirmation of Self-Management Banking"]

[Text] Internal banks differ greatly in size, in the number of customers for whom financial functions are performed, and in the diversity of organizational forms. Of the 167 internal banks presenting a final accounting to the Public Auditing Service [SDK], approximately 90 percent were of average size financially, and on average served about 15 basic organizations of associated labor and work communities. This is positive from the point of view of standardization. With regard to organization, the banks can be categorized as to whether they centralize all banking and financial operations--including foreign currency operations--or whether they have transferred most operations to the work organizations which have a special financial department to perform them.

Past experience indicates that there are a number of factors which make either one or the other organizational form more suitable. Each internal bank has its own specific nature. This diversity of organizational forms, experiences, and distinctive activities makes possible extensive exchange of experience.

First of all, it is useful to relate some practical experience which might point to areas of difficulty. Most important is the fact that construction, especially in Belgrade, has certain characteristics which make it unique compared to other production areas, such as industry, agriculture, transportation, exchange of goods, and handicrafts. In each case, construction has a much graver influence on the onset of a market collapse. Because of the production of "specific goods," which require capital investment, it was the first to bear the brunt of restrictions in investment consumption. Blows of this kind are now being experienced in the traditional Asian and African markets. When oil was flowing freely 2 or 3 years ago, work was readily available in Libya, Iraq, Tunisia, Algeria, Kuwait, and other countries. Consequently, construction always behaves as a dependent function in relation to social and economic critical cycles. These factors should

be kept in mind in the operations of the internal banking mechanism. These are also factors which determine the activities of the Hidrotehnika Internal Bank.

In four work organizations--Hidroenergetika, Geosonda, Beogradnja, and Pomeravlje--financial operations are performed by special financial departments headed by directors or vice-presidents of business organs concerned with economic and financial problems. In practice, these special financial departments appear as certain types of independent branches of the Hidrotehnika Internal Bank.

The limited space available to us in this newspaper prohibits us from going into detail, so we will only be able to indicate a few "weak links" in the chain of activities, and some difficulties which exist.

The Price of Decentralization

Monetary deposits are broken up--immobilized--into almost 100 different dinar and foreign currency accounts in a very decentralized operation. In 1982, these deposits averaged about 450 million dinars at Hidrotehnika, while short-term credits averaged about 1,500 dinars; their own sources in short-term credits came to 30 percent. This organizational "luxury"--that everyone "has their own money"--which is permitted in self-management, is costing SOUR more than 150 million dinars in interest. This is two times more than for 1981. According to empirical observations, these monetary deposits, centralized through the Internal Bank and with even greater real liquidity, could be reduced by half, and the amount of short-term credits reduced by 30 percent. This would decrease interest expense by almost 45 percent. However, the effects would be far greater if reproduction was supplied on a regular basis with critical materials and other supplies, at varying prices, which are absolutely necessary for the construction of complex housing and industrial projects. And in spite of the large amount of money not being used, such as most of the total sum at the SOUR level, last year (1982) basic organization of associated labor producers were blocked for long periods of time because of obligations to basic banks and note signatories.

The experience of some internal banks of emptying giro accounts every day in the classic transfer method of operations for the benefit of internal bank accounts was that this was unacceptable from the standpoint of expenses, and that periodically a number of payment instruments would be lost in the exchange of payments channels for 3 to 5 days. Attempts [to allow] the SDK to empty [them] automatically, every day, were not accepted. It was claimed that internal banks would be turned into deposit banks, and this is contrary to the law of the Basic Credit and Banking System. This, and a number of other facts, pointed to the conclusion that it was necessary to set in motion the initiative, regardless of opposition and resistance, that giro and other accounts be maintained in internal banks, and that only the giro account of the Internal Bank (account 605) be maintained with the SDK, as this type of thing is included in the potential of basic banks. According to

this transformed mechanism of the internal exchange of payments, control and other functions would be reserved for the SDK as the representative of state and social-political communities. This would be the correct way to achieve greater economics in the use of money, to turn it over faster, to reduce expenses, and to achieve the self-management function of associated labor over money. Everything else would be commission.

The gymnastics of money "walking" from account 833 to account 601, then to account 605, in order to visit account 601 again, are only forced measures; the system of the internal exchange of payments has forced some of our large internal banks to use this extremely uneconomical process, but it is, nevertheless, somewhat more rational in some segments in comparison to that of the internal banks which do not do this.

In Hidrotehnika, this system of the "walking" of money is not accepted for practical reasons. Where centralization of monetary deposits and credit has been achieved at the internal bank level, there are quite serious problems when some of the leading members become nonliquid. In this case, the whole system is automatically thrown into a nonliquid state. In the case of Hidrotehnika, the liquid members normally manage their own affairs: they make payments, sign notes, pay out personal incomes, provide notes, guarantees, and other instruments of payment, and enter into business relationships with third parties without difficulty. Under normal conditions--which do not exist now in construction--regardless of the criticism expressed at the "walking" of money, positive results, both in a relative and an absolute sense, would be evident under operative conditions of the kind which is now the internal exchange of payments.

An attempt was made to improve the uneconomical way money is used in Hidrotehnika by combining short-term monetary deposits whose time value exceeds 7 days.

Connecting Internal Banks--Better Utilization of Means of Payment

Our collaboration in giving-financing and taking-borrowing of short-term funds, has given positive results with some internal banks within the limits of the self-management agreement concerning business cooperation among our members; help has come at the most critical times involving liquidity. The magnitude of the effects is not so much as to merit special attention, but what does merit attention is the possibility of more extensive activities in the interconnection of internal banks. It would be quite feasible to form some sort of market of instruments of payment and settlement among the internal banks at the level of the association of bank organizations in Belgrade, the goal of which would be for one to possess at a given moment that which is the most rational and beneficial, whether this be in the form of deposited money, a portfolio of securities, paid-up notes and negotiable notes, foreign currency payment instruments, and foreign currency loans--depending on business conditions abroad--as well as other account possibilities.

In order to implement this, much skill and persistence will be required to overcome the usual technobureaucratic obstacles. Unfortunately, there are many "concerned persons" in associated labor, and even outside of it, and it is still the case that associated labor is being protected--from associated labor.

Initiative of the kind shown by the large internal banks--the Belgrade Factory Farm, the Belgrade Department Store, and several other leading internal banks--is encouraging. These banks are demonstrating good will in offering certain specialized services and other concessions in bringing about the organizational concept of collaboration. No one will offer--unless chosen to do so--the conditions for more economical use of liquid payment instruments by internal banks. There is enough room for more extensive activities, for greater use of payment instruments, and for an increase in the levels of liquidity of the large reproduction systems along with less utilization of short-term credits, within the limits of present day legal possibilities. This is currently being worked on in Hidrotehnika, especially the problem of foreign currency liquidity. This latter problem continues to be a taboo theme in some segments because it is supposedly necessary to engage on a continuous basis teams of specialists--experts in basic banks--to deal with these questions. This monopoly must be broken down into a correct, self-management partnership. These are, however, questions of deeper social system content--changes in the Law Concerning the Bases of the Credit and Banking System, and not only changing it in the direction of improving the foreign currency operation of internal banks.

Internal banking has taken root in associated labor, which facilitates greater activity.

Basic organizations of associated labor have accepted internal banks as something normal, along with all the given limitations, and directly influence their activity without institutional intermediaries. These banks are readily accessible to them compared to national, basic, and service banks. They are now what they have been--centers of financial power regardless of self-management organization. They behave towards associated labor, self-management leadership and specialized structures as institutions of "accommodation." Now this dependence has intensified; it is requested, demanded, and urged.

Indeed, in today's critical economic situation, the banking structure is behaving in this way, along with transferring quite skillfully the various failures to associated labor. Indeed, this is happening at the big banks. These kinds of relationships today only confirm certain theses which have been given, that viewed objectively, basic banking cannot be connected with associated labor in an integrated and functional manner, and the only way possible to connect them in this way is through the internal banks. And the very word "internal" is not appropriate to the operative, functional, and even self-management, content. At the present level of development it would be more appropriate to call them "basic banks of associated labor" of such and such a system of reproduction, and for today's business banks to remain

as business banks of the social and political communities, which is what they are. A foundation has been laid for internal banking and what it is today, to take on a new quality, to be given greater opportunities to develop into banks of reproduction, into homogenous systems, such as the Auto-Bank today. It would be logical to expect that certain propositions connected with the altered relationships of national banks with respect to internal banks be carried out. The current practice of banking has not made the necessary radical changes, including both a parallel and greater institutional transformation of the internal exchange of payments.

Internal Banks--Transmission of Self-Management Banking

Quantitatively, internal banks cover economic activity in the following way: according to the final accounts for 1982, there are 167 internal banks, and 165 basic banks. In 1982, short-term investments grew by 52 percent compared to 1981, and amounted to almost 200 billion dinars, while long-term credits for investment in basic instruments grew by 29 percent and reached a level of almost 100 billion dinars. Similar activities were also covered regarding commissions, foreign currency, matters related to securities, the association of funds of accumulation, and association of short-term instruments and other nonspecific means of payment. Common revenues of over 2 billion dinars were realized in internal banks in 1982, which exceeded those of 1981 by 56 percent. These monetary and statistical indicators really confirm the thesis that society must normalize its dealings with internal banks because the banks have the reserves for realizing a program of stabilization. Internal banking can be used beneficially as a transmission for different transformations of banking as a whole, and this would be in the direction of creating conditions for carrying out the constitutional principles of the proclaimed "unification of markets" for the free circulation of social capital, as well as for achieving other mutual economic goals. Internal banking has an important place in these goals.

Those who work in associated labor and bear the burden will have to go farther, and work, demonstrate, organize, and prepare delegates at all levels; they must destroy myths and monopolies about the internal exchange of payments, deposited money which can be everyone's, but is not whose it is--they must demand that national banks work through internal banks, and not through certain double intermediaries such as associated and basic banks. Recently, the practice of this claim was correctly confirmed--the National Bank of Yugoslavia, in matters concerning payment with naptha for foreign construction jobs, dealt directly with internal banks.

The correct decisions are being made by a compilation of a number of individuals of similar and dissimilar viewpoints, or, by selecting a group of decisions rich in theoretical and empirical possibilities. Nevertheless, now more than ever, more concrete actions are necessary to improve internal banking.

[inset One]

In its form of organization, the Hidrotehnika Internal Bank belongs to large, complex, reproduction systems which have transferred all common functions, even financial, to the work organizations, and in some cases they have dropped them into the basic organizations. In the first phase, it was considered more correct according to self-management principles to transfer all these functions to the base; in later phases of the construction of this system, these common functions must be returned to the SOUR level in a selective manner. It has been shown that it is a big mistake what has taken root in the basic organization of associated labor, and it may be difficult to return to the work organizations and to centralize them, regardless of the positive effects in the performance of common functions.

[inset Two]

The Internal Bank Hidrotehnika performs complete foreign currency operations, including carrying out foreign jobs (through a financial line). Consequently, it performs all mediations in the credit lines in relations with basic banks--Beobank, Jugobank, JIK Bank, and basic banks in Leskovac, it unites the resources of its members, including the use of resources of other sources, such as ZOLL, loan resources from business in the country and abroad, prepayment and signing of notes, etc. Now it is working on constructing a savings and credit service which would perform these jobs for employed workers as well as for citizens, buyers of apartments built for the market and buyers of finished cabinetry and other products.

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SURVEY SHOWS VIEWS ON MORALITY AMONG YOUTH IN SERBIA

Zagreb DANAS in Serbo-Croatian 6 Sep 83 pp 22-24

[Article by Dusan Marinovic]

[Text] It is immoral to speak to young people about morals with picks in their hands; such immoral behavior is a violation of brotherhood and unity.

In his recent questionnaire, 18-year-old high school student Goran Rosic wrote: "I think that we must at last move from word to deed. It is high time for someone to call for an accounting and place responsibility for various negative phenomena in our society. While some people sit and warm their armchairs, others work, and no one recognizes their work. Work responsibility must be much greater, and that can only be accomplished by replacing some comrades who are in responsible positions, and including young people, in resolving all of the most essential social problems."

Similar answers came from the remaining 243 persons who responded to the questionnaire, which was devoted to questions of morality and immorality in Yugoslav society. Nevertheless, all agreed that they were not overly "academized." That is completely understandable, for those questioned were brigade leaders from all over Yugoslavia who had worked last June on 10 projects all over Serbia proper....

Where, however, had the idea originated to talk about morality and prepare the questionnaire "Youth and Socialist Morality"?

The fact is that the time in which we live is burdened by diverse moral temptations, and this provided the immediate impetus to add the direct reactions of the common people, in this case the youth of the country, to the "overhead" academic discussions about this subtle "abstract idea." Thus "feeling the pulse of the younger generation" about this topic, which with increasing frequency finds space in public debates, at meetings and in newspaper columns, becomes even more interesting when we realize that there have been no concrete empirical parameters to measure moral trends in our Yugoslav society. But let's see what the young people think about this, what they said and wrote.

The Trust of the League of Socialist Youth (LSY)

Let us say immediately that the youth showed great interest for a discussion of morality. What is more, almost all those questioned are disturbed by the fact that they do not have more frequent opportunities to discuss ethical problems and moral trends in our society. However, fully 229 of the young people wrote on their questionnaires that they had previously participated in discussions (or at least thought) about morality; this in a way destroys the impression that this topic is a bogeyman and taboo for youth.

The young are most interested in those changes in morality that are related to sociopolitical processes in our society, or that have accompanied the development of self-management. To the question as to whether Yugoslav society should have a special morality, more than 82 percent answered affirmatively. It is interesting that 38 percent of these young people categorically asserted that a new, socialist morality had already been developed and accepted in the new Yugoslavia. Only eight responded that there is no new morality compared to the previous status, but a majority of those questioned (41.9 percent) [sic] agreed with the statement that Yugoslav morality "has quite a few new elements, but also quite a few foreign ones."

Marta Orsolic, a 23-year-old skilled worker from Vukovar, from the Drugi Kongres KPI youth labor brigade, wrote the following:

"We say that we must carry out stabilization, but no one wants to be the first to begin by renouncing some rights and privileges. Some ask that only the youth comply, but the young people have been least responsible for creating the present situation. In my opinion, that is much worse than immoral!"

Yet we do not have to prove that diverse investigations bring surprises.

Nevertheless, it is truly surprising that the brigade workers have much more trust in their youth organization leadership than the youth officials themselves imagine. For example, the question as to what social functionaries should be most concerned with morality in our society was answered 21 percent of the time by giving the full right to that function to the youth organization. Only thereafter did the young people think of the school and the family in that role, followed by sociopolitical organizations, labor and social organizations and then by close peer groups, colleagues and friends. At the bottom of this list of "competent" parties to discuss morality were the local community and--the church!

Along with noting that this last choice was marked by only three interviewees, we should also say that it was even more interesting to observe how young people rate the efforts of the social parties mentioned, at least where morality is concerned. In evaluating church involvement in ethical matters, either ones or fives were marked, indicating that those questioned were unable to find any average value. That did not, however, occur with any other social parties. Thus the young people looked with most favor on the work of the youth organization, but apparently, just why remained unclear.

Some Wrote Down Love

What did the young people regard morality to be? Fully 29.5 percent equated it with humane behavior, 17.5 percent thought it was humanism, while others regarded it to be a synonym for character, principle, self-management or freedom. The active workers said further that morality was correct behavior, spirit, right, and goodness, but also struggle. Finally, some thought it was an internal happiness, and even custom, while 10 questionnaires wrote under all the possible answers that had been offered that it was the unavoidable--love!

Apparently, the young people in work brigade uniforms had no trouble with the content of morality, regarding it most often as attitudes toward other people (30.5 percent). Others thought that it signified an attitude toward social obligations. A minority, however, held to the opinion that the essence of morality was closely tied to the ideology of the LCY, to property and to the political system as well.

Certainly it is very interesting to note the group of answers given by the brigade workers to the question: "What are the most significant social values that morality in our society should develop? For 25.7 percent of the young questioned, that value was--brotherhood and unity! Another 18.5 percent cited human equality, while 15.8 percent cited respect and appreciation of work and creativity. Unity among peoples and nationalities was marked by 14.2 percent of those questioned as the next value that our morality should develop, while 13.1 percent placed self-management in that category and 7.4 percent gave that role to the happiness and well-being of every person. Personal freedom was at the bottom of the list, winning only 5.3 percent of the population questioned.

According to the young people included in this survey, the decisive factor in human behavior is family upbringing (45.3 percent). Yet 24.4 percent hold that one's circle of friends and comrades can be decisive, while 11 percent thought it was one's work position. Only 8.2 percent of the brigade workers thought that the basic factor was one's property well-being, and the least commonly indicated factor, with the lowest recordable percentage, were tradition and the place and manner of residence.

However, answers to a question that, if not crucial, still was most pressing, as to whether they thought our society had reached a moral crisis, brought the amazing results that most of the young people included in this survey believed there was no crisis! More precisely, 74.2 percent answered that "there are weaknesses, but I don't think it is a crisis." On the other hand, 14.4 percent thought that a crisis point had been reached, while 11.4 percent categorically rejected such an assertion.

Nationalism Is Immorality

From this it obviously follows that the youth seek much "harder" arguments for a moral crisis than are being offered them, such as, commonly, usurpation and misappropriation of public property, official misconduct, opportunism, bureaucracy, unwise investments, fixed competitions and bribery, as well as growing violence and crime of all types. Yet the questionnaire also clearly

shows that the young people still firmly believe that for all those immoral acts, not only a guilty party but a cause can be found. Therefore, in seeking more concrete determinations, the survey asked the young people as to what social groups display the most obvious changes in behavior and morality; some very interesting answers resulted.

Perhaps somewhat overly self-critically, the young people believed that the greatest changes in morality had come precisely in the ranks of the young. That opinion was held by fully 28.9 percent, while 18.8 percent expressed the conviction that changes in morality had come largely in the working class, and 10.6 percent saw the same kind of changes in economic leaders. In the opinion of the brigade workers, changes in morality had occurred (following these social categories) among intellectuals (9.5 percent of replies), followed by public figures (7.6 percent). Only 6.2 percent saw such changes in socio-political workers, while at the bottom of the list (only 5.1 percent) were artists), veterans of the National Liberation War (4.9 percent) and agricultural workers (4.6 percent). At the very bottom came educational workers (3.8 percent).

In putting certain social groups ahead of their expected position, perhaps the impression emerges that young people are not acquainted with the behavior of other classes of our society. Yet we must keep in mind that here too the young people were using themselves at the point of departure, their own families, peers and comrades, their own environment.... There were, however, other opinions.

Ljiljana Butkovic, a professor from Rab and a brigade worker in the Sime Kurelic Ikan youth labor brigade, asserted: "The moral crisis has gripped those involved in the social superstructure more than those in the social base."

Naturally, it would be interesting to hear what the young people consider to be immoral behavior. According to them, in first place is violation of brotherhood and unity! (See table below.) Certainly, this very graphically shows that the young people are very sensitive to the escalation of nationalism, so that it is not surprising that a real synonym for immorality is--nationalism! That assertion came from 19.1 percent of those questioned, with 13.8 percent stating that upbringing was the problem, followed by lying (13 percent), careerism (8.2 percent) and bureaucratism (8 percent). For youth with a pick in hand, theft too is immoral. That was the assertion of 7.8 percent, and another 5.2 percent put greed in the same category. The "list of immorality" continued with dependency (4.8 percent), nondemocratic behavior (4 percent), snobbery (3.6), machination (3.4), introspective behavior (3), localism (2.6), technocratism (2.4) and finally idolatry, with only 0.8 percent.

Probably the reader has already noticed the interesting fact that certain phenomena, especially those closely tied to nationalism, are regarded very seldom by the young as immorality. This certainly would support the assertion that, unfortunately, the young people have not probed very deeply into its causes. One view of the problem was expressed by Snezana Grahovac, a 14-year-old pupil from Porec:

"The desire to develop brotherhood and unity, which once existed among all our peoples, now has been forced out by the desire of many for wealth and power, so that the young people, who in the first instance feel a real wish [for brotherhood and unity], often have no place to express it...."

What Threatens Morality

Despite everything that has been said, the young people still believe also that the main blame for maintaining, and even promoting, the old morality continues to be personal property, or the easy accumulation of wealth by individuals. The next cause threatening our morality, according to the young people, is the dichotomy between word and deed, followed by insufficiently resolute measures against violators of morality. In this group of causes the brigade workers included, in order, certain vestiges of the ideology of bourgeois society, along with domestic and everpresent statist and bureaucratic practices. That the petit-bourgeois element is coming back is no surprise to the young people, even though they blame the inactivity of sociopolitical organizations, the estrangement of people in urban environments, patriarchal morality and finally, the promotion of false values for that phenomenon.

Miki Mirkovic, a 20-year-old student, writes with apparent justification on his questionnaire:

"We must punish some actions more severely. We are still too soft on those who raise havoc with our morality. Unfortunately, some people are not punished at all, even though we are all aware that what they are doing is absolutely immoral!"

As is apparent from the self-critical spirit expressed by all young people, they have referred in their responses to the decline in morality among their peers. Thus they severely criticized opportunism, the fear of speaking openly, and the decline of respect for older people, but also the snobbery of part of their generation. The youth wrote that they are also bothered by the growth of cowardice and blind following of the current mode, alcohol and drugs, careerists, petit bourgeois values, passivity and imitation of things from the West. Also coming under criticism were lack of respect for traditions, submission to manipulation and disillusionment. Of course, there were notes of praise of the type "one feels the greater presence of young people in society," but that, naturally, is a separate topic. Yet why, if the young people think that way, has there been a decline in morality among the youths?

Ana Gubic, a high school student from Bosanka Gradiska, offers this explanation: "The morality of young people, compared to that of older people, is declining. That has come about in its turn by the decline in social concern for the development of young people, especially those who are in the transition from childhood to adolescence. No one comes to them, they have no one to show them what is correct and what is not, what is morally right and what is not."

On the basis of this questionnaire we can see that the young people who spent part of their summer on voluntary work projects wish to begin speaking once more about all of these problems, but without the verbalism that is so typical

for this climb. What is even more interesting, the young people would like to see these new discussions held in their midst, and only later at some high youth forum, on the radio or perhaps on television....

Ana's colleague at the pick axe, 17-year-old Lidiya Avdagic, a high school student from Ivangrad, wrote briefly:

"I think it is immoral to carry on about morality. Let us get down to work. The morality of telling stories is dead. Long live the morality of work!"

In What Way Is Immoral Behavior Most Frequently Expressed in Our Society?

	Percentage of responses
Violation of brotherhood and unity	23.6
The drive for material possessions	20.8
Resistance to the development of self-management	15.2
Economic political crime	15.0
Becoming closed mentally within local and national boundaries	10.8
Excessive admiration for foreign values	7.4
Extravagance and megalomania	7.2

[Inset, p 22] The Population

The investigation "The Young and Socialist Morality" was conducted in June by OMLADINSKE NOVINE, the organ of Serbian young people, among participants in ten federal youth work projects in Serbia proper (the federal youth labor projects "Derdap," "Vlasina," "Beograd," "Negotin," "Kragujevac," "Kadinjaca," "Nis," "Piot," "Smederevo" and "Pester"). It included 244 brigade workers, from Trnovo, Kragujevac, Solin, Rab, Borovo, Krusevo, Beograd, Split, Tivat, Bjelovar, Pristina, Zagreb and Bosanska Gradiska.... The population included 85 females, 104 young workers, 102 high school students, as well as some officials, university students, agricultural workers, unemployed and one professor and one journalist. The average age of those included was slightly less than 21 years.

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